PROGRAMMING GUIDE

Universal Dragon 2.3

PROGRAMMING SOFTWARE

INTRODUCTION

Universal Dragon is powerful software for programming Xantech programmable devices. Universal Dragon features a graphical interface with drag-and-drop capability that makes it easy to program a device with anything from basic functions all the way up to sophisticated macros involving many different commands that control multiple components.

Universal Dragon v2.3 offers dramatic improvements over previous versions that make the power of all Xantech products much more accessible to dealers and programmers, even those with little or no experience using software to configure sophisticated control and distribution devices and systems. New features integrated in to the Universal Dragon v2.3 release are as follows:

- New project creation is easier than ever before. The AutoBuild Wizard makes it possible to build an SPLCD or XTR39 project through a menu-driven process and have a complete working project within minutes.
- Use AutoFill to drag an entire group of commands from the palette editor onto your SPLCD/XTR39 project page
- Import/Export SPLCD/XTR39 individual al pages
- You can now resize the look of your base unit
- Rewritten Palette Editor now uses a relational database instead of an XML file
- Default template support for different base units
- HEX-IR support for XTR39, SPLCD, MRC44/88
- Source overview window for SPLCD and XTR39 projects
- You can now mix graphic styles on an XTR39/SPLCD 39G/57G project (previously you were limited to using only one graphic style).

COMPUTER REQUIREMENTS

Operating system:	Windows XP or Vista with Microsoft.NET framework
Processor (CPU) capability:	1.0GHz or greater (1.5GHz preferred)
Free hard drive space:	Minimum of 800MB (as your libraries and projects expand you will need more)
RAM:	Minimum of 512MB (1GB is preferred)
Hardware:	Mouse (or laptop touchpad), keyboard, USB port or com port or USB-to-Serial adapter

PROGRAMMING INTERFACE

When you first launch the Universal Dragon software, the programming window appears, with no device selected (see *Figure 1*). To begin programming you must first select the device you want to program:

1. Go to the *File* menu and select *New Project*. The New Project window appears (see *Figure 2*).
2. Select the device you want to program from the drop-down list. The device will appear in the middle of the programming window (see *Figure 3*, on page 3).

IMPORTANT: IF USING WINDOWS VISTA, THE FIRST TIME YOU LAUNCH UNIVERSAL DRAGON YOU MUST RIGHT-CLICK ON THE *UNIVERSAL DRAGON* DESKTOP ICON AND SELECT *RUN AS ADMINISTRATOR*.

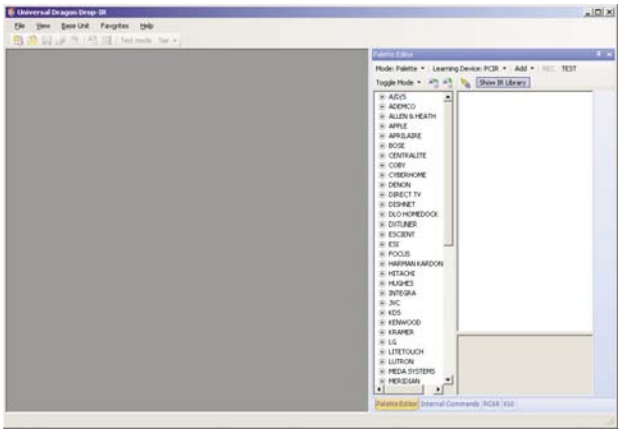

Figure 1: Programming window (no device selected)

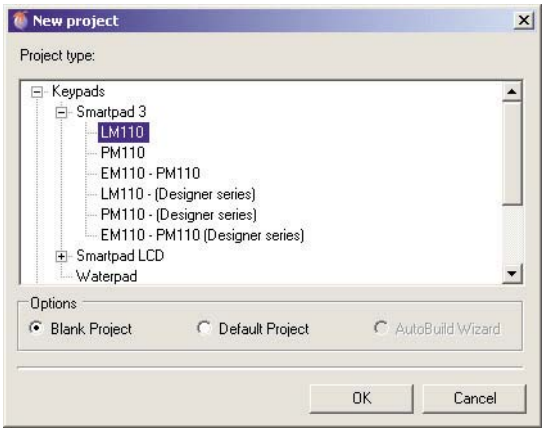

Figure 2: New Project window

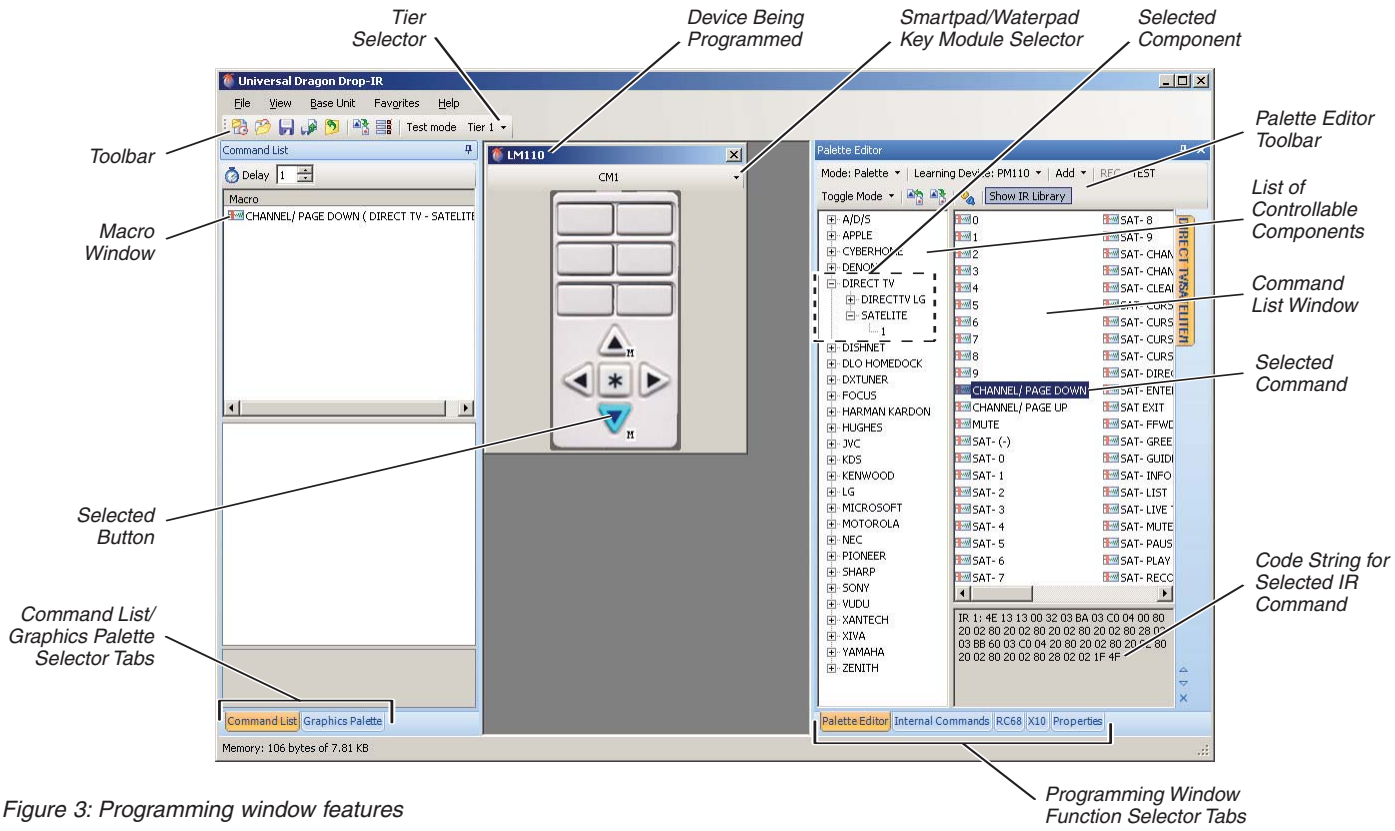

Figure 3: Programming window features

PROGRAMMING WINDOW FEATURES (see *Figure 3*)

NOTE: THE FEATURES SHOWN HERE ARE COMMON TO MOST DEVICES. DIFFERENT XANTECH DEVICES HAVE DIFFERENT FEATURES AVAILABLE IN THE PROGRAMMING WINDOW. THESE WILL BE DISCUSSED IN THE BASE-UNIT SPECIFIC EXAMPLES *SECTION THAT BEGINS ON PAGE 6.*

TOOLBAR: Contains icons for basic Universal Dragon program functions

TIER SELECTOR: Selects the button action (press-and-release or press-and-hold) being programmed.

DEVICE BEING PROGRAMMED: After selecting a device in the *New Project* window, it will appear in the center of the Programming Window. Smartpad and Waterpad devices also provide a drop-down list for selecting specific modules.

MACRO WINDOW: Shows all of the commands and delays that have been programmed into the selected button.

SELECTED BUTTON: The button currently being programmed is highlighted in blue.

COMMAND LIST/GRAPHICS PALETTE SELECTOR TABS: When the *Graphics Palette* tab is selected the Macro Window changes function to show all of the available graphics elements if the device being programmed has graphics capability.

PALETTE EDITOR TOOLBAR: Contains icons for Palette Editor functions.

LIST OF CONTROLLABLE COMPONENTS: Displays a list of components that can be controlled by the selected device. Selecting a brand displays all of its controllable components; selecting a component displays the control method: 1 (IR), RS232, or Hex.

COMMAND LIST WINDOW: After selecting a control method above, the *Command List Window* displays all of the available commands for the selected component.

SELECTED COMMAND: Selecting a command programs its function into the selected button.

PROGRAMMING WINDOW FUNCTION SELECTOR TABS: Switches the Programming Window's function between Palette Editor (shown), Internal Commands, RC68, X10 and Properties.

You can re-size the different sections of the Programming Window by clicking and dragging their borders.

BASIC PROGRAMMING STEPS

The basic Universal Dragon programming steps are the same for all Xantech programmable devices.

SELECT A DEVICE

1. Use *File>New Project* or *New Project* toolbar icon (*Figure 4*) to create a new project. Each controllable device must be programmed as a separate project. Universal Dragon makes it simple to use the programming for existing projects to program new ones.
2. Select the device you want to program from the list.
3. The device will appear in middle of programming window.

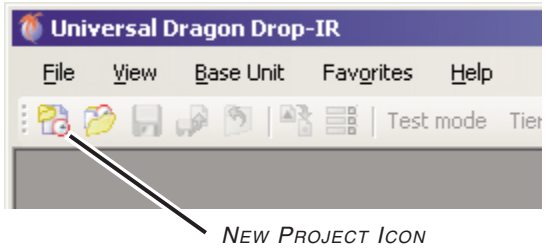

Figure 4: New Project Icon

BUILD MACROS

Devices are programmed using the Palette Editor. The Palette Editor has two modes: **PALETTE** and **EDIT**, selectable by the *Mode* tab (*Figure 5*).

PALETTE: Displays a list of components with commands that are known to work with the selected device.

EDIT: Displays a list of all brands and products with control data in the system, even those that may not work with the selected device.

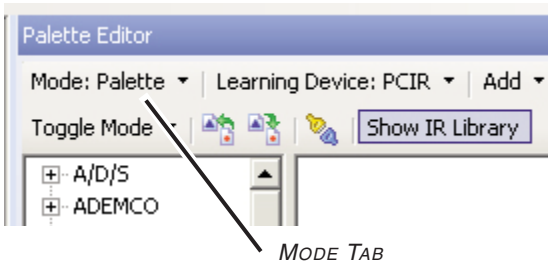

Figure 5: Palette Editor *Mode tab*

1. Select the component to be controlled from the list of controllable components in the Palette Editor (see *Figure 3*, on page 3).
   a) Select a brand to display all of that brand's controllable components.
   b) Select a component to display that component's available control methods:

      1 OR 2: IR codes

      RS232: RS-232 codes

      HEX: Published IR command data (such as typically used by Pronto remotes) for use creating new IR commands when the original IR remote is unavailable to learn from. A large selection of hex codes for many remote controllers can be found at www.remotecentral.com.

   c) Select a control method to display a list of available commands for the selected component.
2. Select the device's button that you want to program, and then click on the desired command. The command will be applied to the button, and will appear in the Macro Window. (See *Figure 3*, on page 3)

NOTE: IR, RS232 AND HEX COMMANDS ARE ALL PROGRAMMED IN THE SAME WAY, ALTHOUGH HEX COMMANDS MUST BE CREATED BY THE PROGRAMMER.

3. You can create a macro by programming a string of commands for a single component or multiple components to a single button. Each time the button is pressed it will issue all of the programmed commands, in the order they appear in the Macro Window.

Inserting Delays in Macros

You can add delays between commands. (See *Figure 6.*) Depending upon the particular components being controlled, this can make a macro run more smoothly.

1. Select the delay amount. You can select from 0.1 to 30 seconds.
2. Drag the *Watch Icon* into the Macro Window, between the commands where you want the delay. The selected delay will appear in the command string.

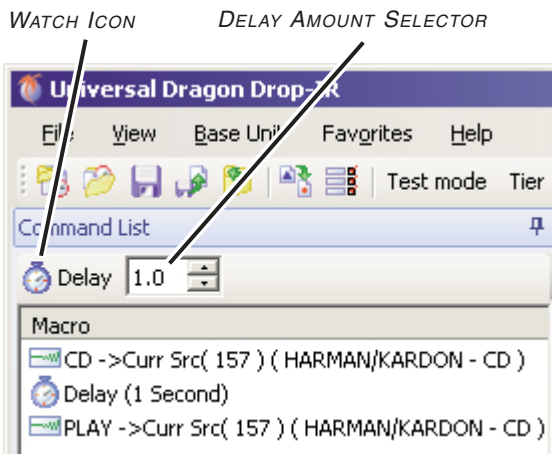

Figure 6: A one-second delay between commands

Adding IR Repeats to Commands in Macros

Once a command has been added to a macro you can add IR repeats as necessary to enable the command to work properly within the macro. See *Figure 7*.

1. In the Macro Window, click on the command you want to have IR repeated.
2. Click on the COMMAND tab. The selected command's characteristics will show in the window below the Macro Window.
3. Select REPEAT. You can highlight and change the number of IR repeats to anywhere from 0 to 30.

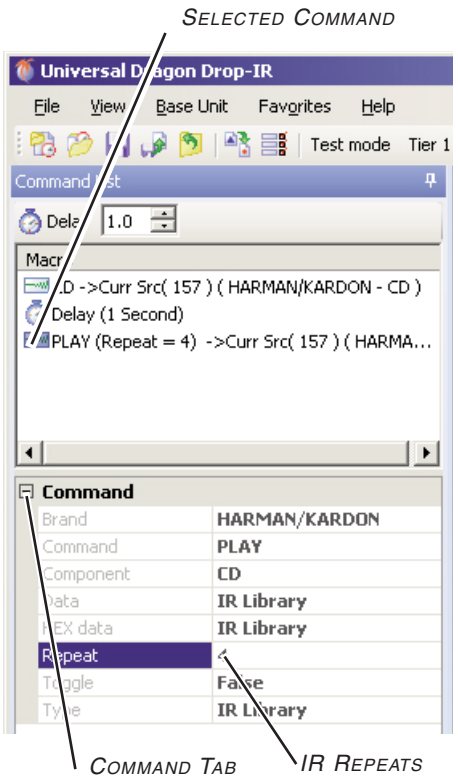

Figure 7: Adding IR repeats to a macro command

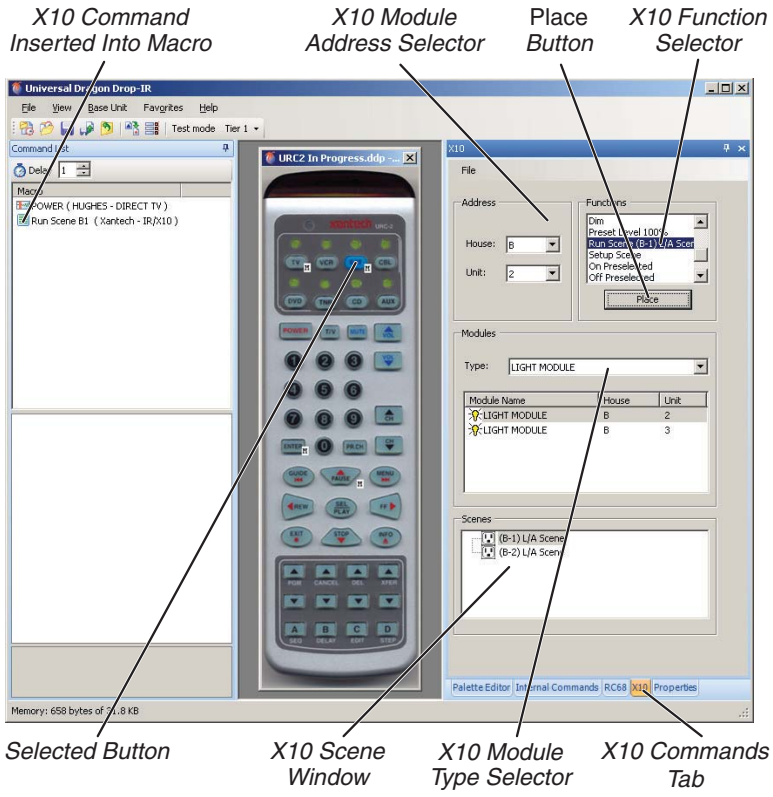

Figure 8: Adding an X10 command to a macro (URC2 shown)

X10 Commands (see *Figure 8*)

You can also add commands for X10 control components to macros on any Xantech programmable device.

1. Click on the *X10* commands tab.
2. Select the X10 module address, module type and function.
3. Select the button on the device to which you want to apply the X10 command.
4. Click on the *Place* button. The X10 command will appear in the Macro Window.

You can also create X10 scenes by right-clicking in the *Scene* window. Add the scenes to macros by selecting *Run Scene [XX]* as the function you're placing in the Macro Window.

Tier Programming

The MRC88 series, Smartpad 3 series, Waterpad, and URC2 keypads allow two different actions for each button: Press-and-release, and press-and-hold. This lets you program two completely different macros for each button, one on each tier. Use the Tier Selector (see *Figure 9*) to select the tier before programming the button's macro. See *Tiers*, on page 24 for more details.

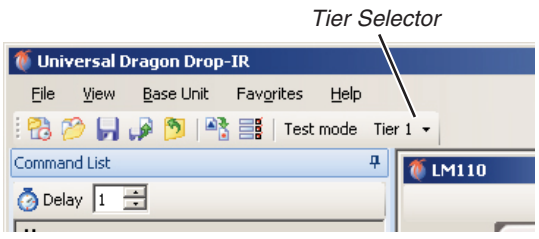

Figure 9: Tier Selector

BASE-UNIT SPECIFIC EXAMPLES

SMARTPAD 3 FAMILY KEYPADS (PM110, LM110, EM110)

Smartpad 3 Programming

After selecting the appropriate base module using the *New Project* icon or menu tab, use the *Key Module Selector(s)* to select the particular keypad modules you are inserting into the base module (see *Figure 10*).

PROGRAMMING BUTTON GRAPHICS: Before programming macros, you should first use the *Graphics Pallete* to define the functions of the Smartpad 3 keypad buttons. Doing this first will simplify macro programming.

1. Select the *Graphics Pallete* tab. The Macro Window will convert to the Graphic palette window (see *Figure 10*).
2. Select the desired button graphic and drop it onto the keypad button (see *Figure 10*).

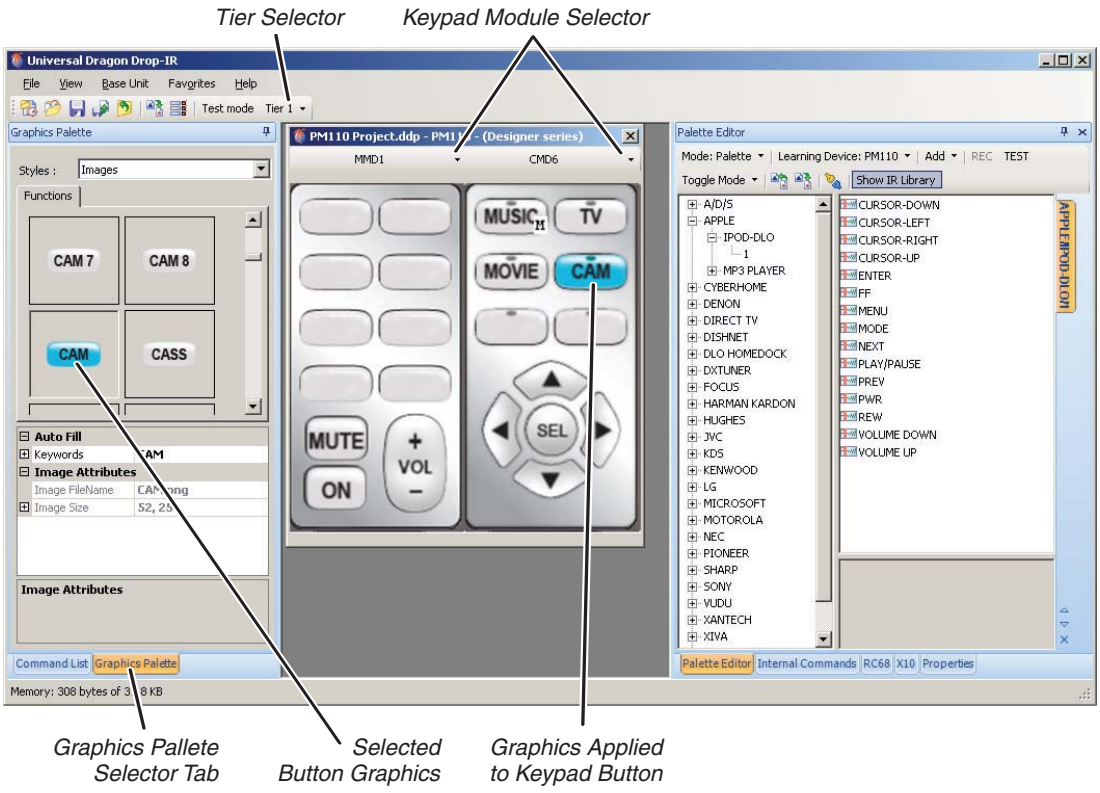

Figure 10: Smartpad 3 keypad programming screen (with MMD1 and CMD6 keypad modules), showing button graphic programming

The various Smartpad 3 keypad modules include a selection of buttons with common markings that allow you to apply the selected graphics to the buttons themselves. Refer to the Smartpad 3 instruction manual for details.

PROGRAMMING MACROS: The keypad module macros in the Smartpad 3 family are programmed using the basic steps described on pages 4 – 5.

INTERNAL COMMANDS: In the Smartpad 3 family, the *Internal Command* tab allows you to define the function of each keypad's Mute Relay.

Project Options

BANK TRACKING: The Smartpad 3 Project Options window (see *Figure 11*) lets you assign a group code for the keypad, and individual bank numbers to each of the project's sources that will be used during RC68 operation. When multiple keypads are being used in a single zone, Bank Tracking allows them all to switch to the active source whenever the source is changed on one of the keypads, keeping all the keypads 'in sync'.

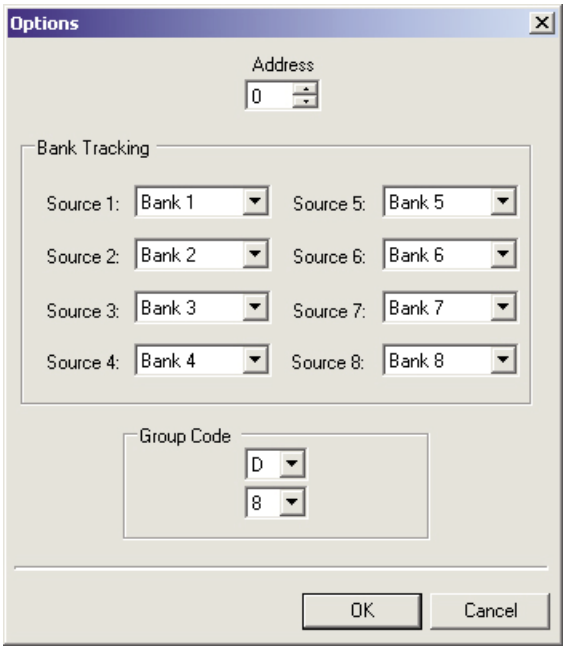

Figure 11: Setting Bank Tracking *in Smartpad 3 keypads*

BASE UNIT SPECIFIC EXAMPLES

WATERPAD

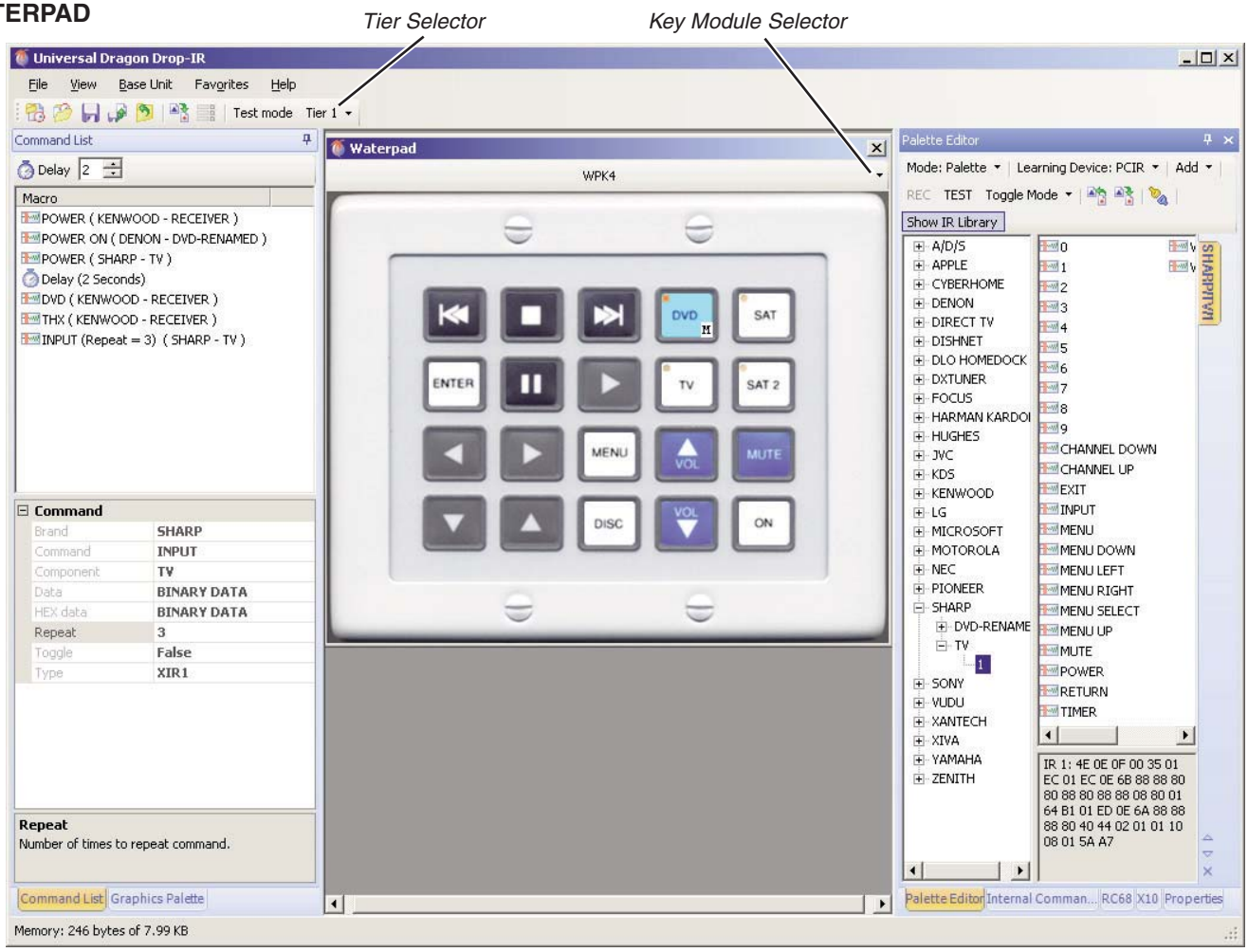

Figure 12: Waterpad programming screen (WPK-4 keypad shown)

Use the *Key Module Selector* to select the particular Waterpad module you are programming (see *Figure 12*).

PROGRAMMING BUTTON GRAPHICS: Before programming Waterpad macros, you should first use the *Graphics Pallete* to define the functions of the Waterpad keypad buttons. Doing this first will simplify macro programming.

1. Select the *Graphics Pallete* tab. The Macro Window will convert to the Graphic palette window (see *Figure 13*).
2. The *Sources* tab lets you assign graphics to the dedicated source buttons on the WPK-4, WPK-6 and WPK-8 Waterpads. The *Functions* tab lets you assign graphics to the Waterpad function buttons.
3. Select the desired button graphic and drop it onto the keypad button.

The Waterpad includes a selection of 128 button icon labels that allow you to apply the selected graphics to the buttons themselves. Refer to the Waterpad instruction manual for details.

PROGRAMMING MACROS: The Waterpad keypads are then programmed using the basic steps described on pages 4 – 5. Note that the WPK-4, WPK-6 and WPK-8 keypads have dedicated source buttons (indicated by a gold dot in the upper-left corner).

NOTE: THERE ARE NO PROJECT OPTIONS OR INTERNAL COMMANDS AVAILABLE IN THE WATERPAD KEYPADS.

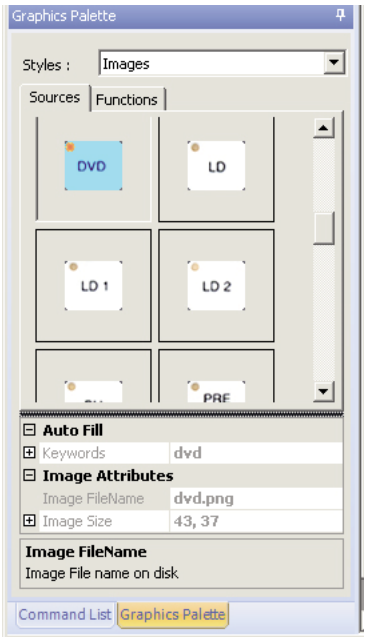

Figure 13: Waterpad Button Graphics *palette*

BASE-UNIT SPECIFIC EXAMPLES

SMARTPAD LCD FAMILY

Smartpad LCD controllers (SPLCD) offer an extreme degree of operational sophistication and flexibility. The SPLCD programming screen begins as a blank screen workspace (see *Figure 14*). Each of the system's components will need to have its own LCD control screen with its own particular set of control buttons. Normally, each of these control screens would have to be created from scratch, with each button selected and positioned individually — a very time-consuming process. This process can be streamlined by using Universal Dragon's *AutoBuild Wizard* (see below).

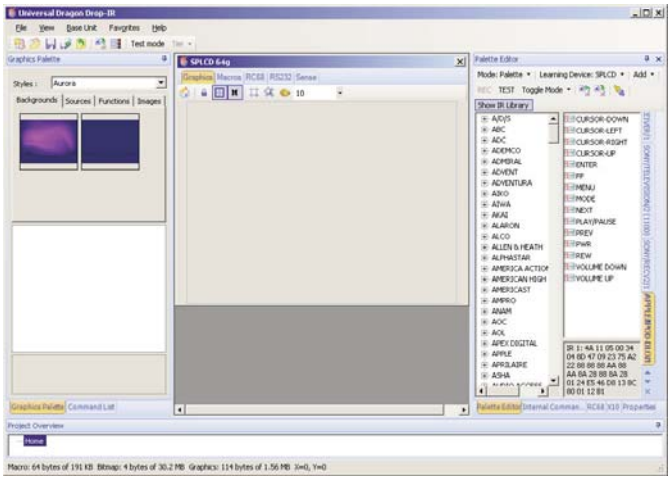

Figure 14: The SPLCD screen workspace (empty)

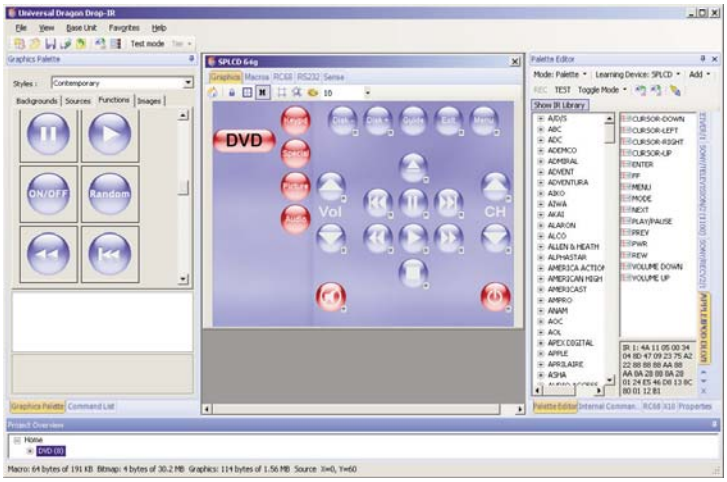

Figure 15: SPLCD DVD control screen created with AutoBuild Wizard

AutoBuild Wizard

Universal Dragon includes an AutoBuild Wizard (*File > AudoBuild Wizard*) that streamlines the process of creating individual SPLCD component control screens (see *Figure 15*). AutoBuild Wizard creates complete component control screens (including some basic macros) in just a few steps. This can save you a great deal of programming time, while still providing you with the ability to customize each screen for the customer's specific desires and the installation's specific requirements.

SPLCD Touchscreen Creation and Programming

NOTE: THIS SECTION EXPLAINS THE BASICS OF SPLCD TOUCHSCREEN CREATION AND PROGRAMMING. FOR DETAILED INFORMATION PLEASE SEE THE SMARTPAD LCD INSTALLATION & PROGRAMMING MANUAL.

After selecting the specific SPLCD controller unit with the *New Project* function (*File > New Project > Keypads > Smartpad LCD > [39g, 57g, 64g or 64v*), an empty SPLCD screen workspace appears (see *Figure 14*). You can re-size this screen as necessary by dragging its lower right-hand corner.

SELECTING AND PROGRAMMING TOUCHSCREEN ELEMENTS: The SPLCD provides graphic elements for the touchscreen's background, and Graphical Touch Links (GTLs) that serve as source buttons, and function buttons.

1. Select the *Graphics Pallete* tab to activate the Graphic palette window (see *Figure 16*, on page 9).
2. The *Styles* drop-down menu contains different sets of backgrounds and source, function and image buttons.
3. Select the desired background from any style and drop it into the empty SPLCD screen.

NOTE: YOU CAN ALSO USE IMPORTED .BMP AND .PNG FILES AS CUSTOM BACKGROUNDS. FOR DETAILS SEE THE SMARTPAD LCD INSTALLATION & PROGRAMMING MANUAL.

4. Plan your control screens in three layers: home, source and function. You should place all Source buttons and any Function buttons that will be used on all screens (such as for volume, mute, and power) on the *home* page.

NOTE: SPLCD PROJECTS MUST INCLUDE AT LEAST ONE SOURCE BUTTON.

5. Click the *Home Layer* icon (see *Figure 14*) to activate the home page. After clicking the *Functions* tab, select and drop the desired home layer Function buttons to the screen.

NOTE: TO HELP WITH POSITIONING ELEMENTS, THE SPLCD SCREEN WORKSPACE HAS AN ALIGNMENT GRID (ALONG WITH A "SNAP-TO" FUNCTION) THAT CAN BE TURNED ON AND OFF. (SEE FIGURE 16.*) EACH HAS A BORDER (SHOWN AND HIDDEN BY THE* SHOW BORDERS *BUTTON) THAT SHOWS THE GTL PLACEMENT RELATIVE TO THE GRID. ONCE ALL GTLS ARE IN PLACE YOU CAN CLICK ON THE* LOCK GRAPHICS *ICON TO PREVENT ACCIDENTAL MOVEMENT OF THE GTLS.*

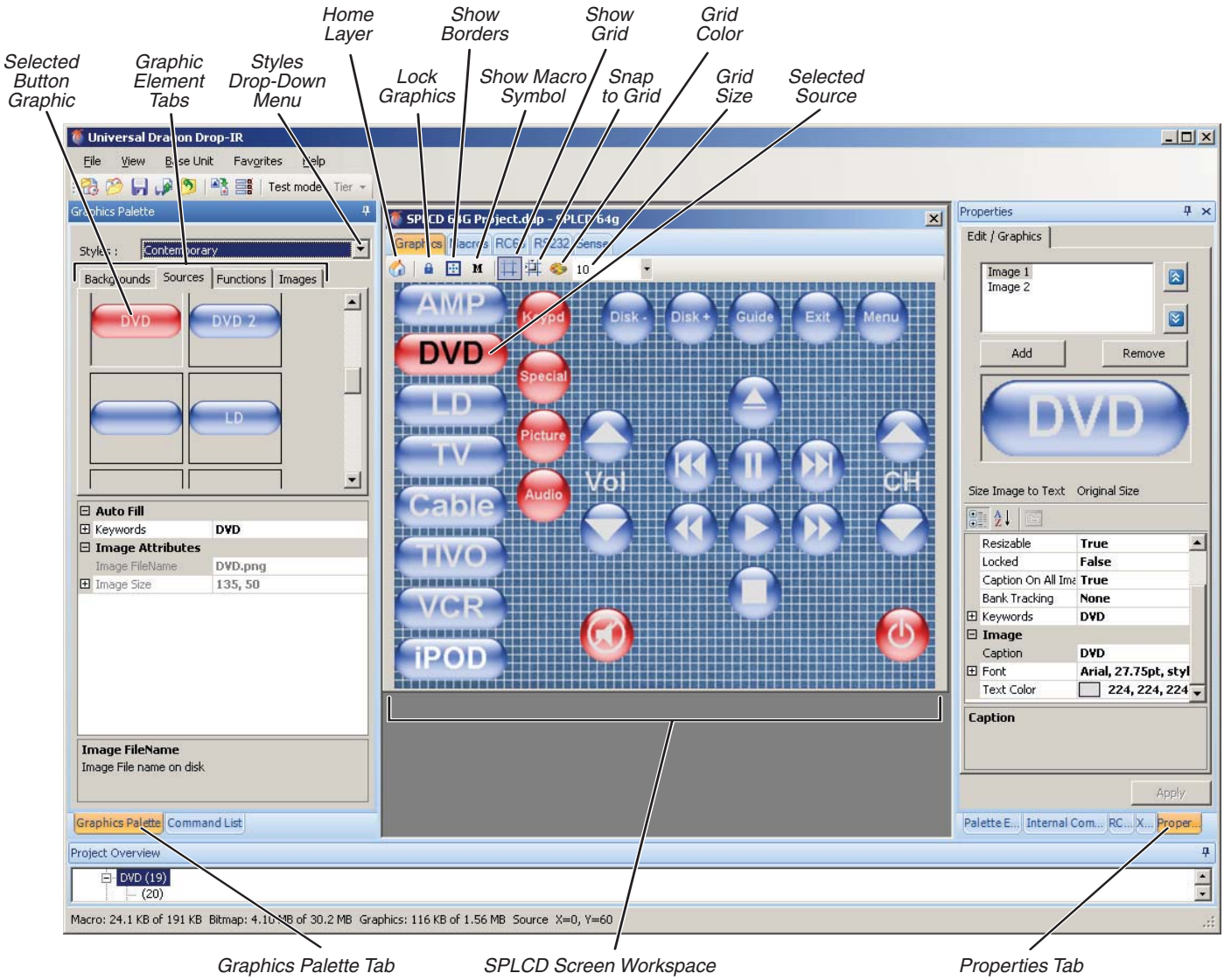

Figure 16: SPLCD touchscreen creation screen

6. Build macros for these buttons as described in *Build Macros*, on page 4. These macros should be for the volume, mute, power and other functions that you want to be available on all screens.

7. Once you have programmed all of the home layer function buttons, select the *Source* Graphic Elements Tab (see *Figure 15*). Drop the desired Source buttons (one for each device to be controlled) onto the home layer (make sure that you're on the home layer before adding each Source button). You can program their macros (as described in *Build Macros*, on page 4) now, or at a later time.

NOTE: YOU CAN COMBINE SOURCE BUTTONS, FUNCTION BUTTONS, AND BACKGROUNDS FROM ANY STYLES.

8. Once all of the Source buttons are in place, select one (it will change to red) and then select the *Functions* Graphic Elements Tab (see *Figure 16*). Drop the desired Function buttons for that source component onto the source's screen. You can program each button's macro (as described in *Build Macros*, on page 4) now, or at a later time.

9. Repeat *Step 8* for each Source button in the project.

Changing SPLCD Button Text

Note: This section explains the basics of changing SPLCD button text. For detailed information please see the Smartpad LCD Installation & Programming Manual.

The SPLCD lets you create text on blank Source and Function buttons (buttons that have text cannot be edited). This lets you create customized buttons for sources and functions not included in the library by dragging and dropping blank buttons on screens and then labeling them.

1. Click on the *Properties* tab. The *Edit/Graphics* window will appear (*Figure 17*), showing the currently-selected button. (If the home page is currently selected the *Edit/Graphics* window will be empty.)

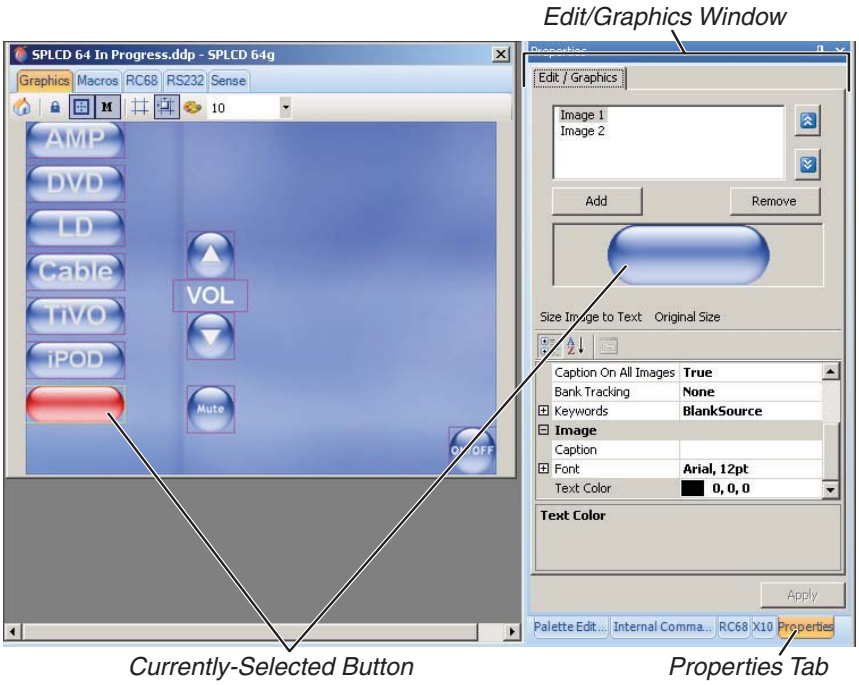

Figure 17: The SPLCD Edit/Graphics *window*

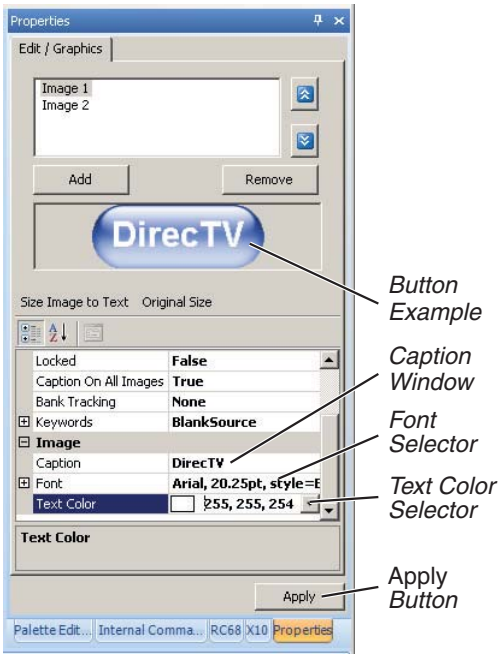

Figure 18: Edit/Graphics *window text tools*

2. Click the cursor in the Caption Window and type the text you want to appear on the selected button. After typing the text, click the cursor outside of the Caption Window and the text will appear in the Button Example (see *Figure 18*).
3. Use the Font Selector and Text Color Selector to change the font style and size and text color of the button text in the Button Example (see *Figure 18*).
3. When you're finished formatting the text, click on the *Apply* button. The text will be applied to the selected button (see *Figure 19*).

Bank Tracking: Each Source button can be assigned a unique Bank number for bank tracking during RC68 operation (see *Figure 18*).

1. Click the cursor in the Bank Tracking Selector.2. Use the drop-down list to select the Bank number.
3. Click on the *Apply* button to apply the Bank Tracking number to the selected Source button.

Note: See Project Options Bank Tracking, *on page 6.*

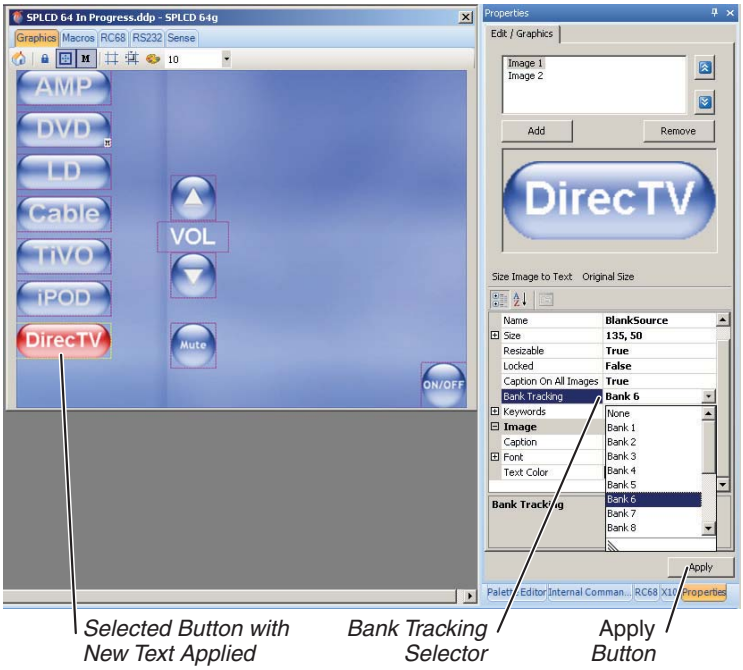

Figure 19: New text applied to selected Source button; Bank Tracking *selector*

Internal Commands

The SPLCD lets you insert the following internal commands into macros: *Set Backlight ON/OFF, Set Line Status* (relay voltage) *ON/OFF, Password Lock, Password Unlock, Password Digit* (see *Password*, on page 13 for details), and *MRC88 Button Emulation*.

To add an internal command to a macro (see *Figure 20*):

1. Click on the *Internal Command* tab.
2. Select the desired internal command and state with the Internal Command Selector.
3. Select the button on the SPLCD workspace to which you want to apply the macro command.
4. Click on the *Accept* button.

The internal command will appear in the Macro Window.

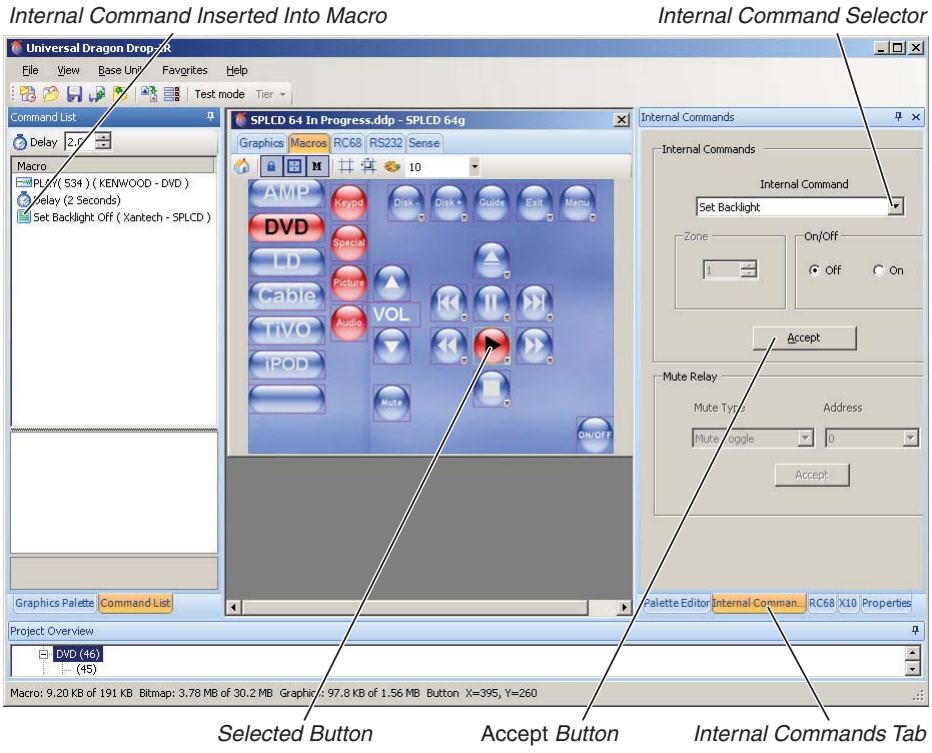

Figure 20: Adding an Internal Command to an SPLCD macro

Project Options

NOTE: FOR A MORE DETAILED DESCRIPTION OF SPLCD PROJECT OPTIONS, PLEASE SEE THE SMARTPAD LCD INSTALLATION & PROGRAMMING MANUAL.

SETTINGS (see *Figure 21*)

DISPLAY ORIENTATION: Set to *UP* if the SPLCD screen will be *at or higher* than the user's eye level; set to *DOWN* if the SPLCD screen will be *at or lower* than the user's eye level.

NOTE: CHANGING THE VIEW ALSO ROTATES THE SPLCD SCREEN IMAGE 180°, SO WHEN CHANGING THE ORIENTATION, INSTALL THE SPLCD ACCORDINGLY:

- **UP VIEW** = Install the SPLCD with its IR sensor on the *right*.
- **DOWN VIEW** = Install the SPLCD with its IR sensor on the *left*.

LINE INPUT ROLE: Selecting *IN* configures the Status terminal on the rear of the SPLCD to receive a 5V ~ 30V trigger signal from an external device; selecting *OUT* configures the Status terminal as a switchable 12V trigger terminal to control an external device.

LED: Checking the *Track* box causes the SPLCD status LED to track the status of the SPLCD's rear panel Status terminal. When a +5V ~ 30V DC voltage is present at the terminal the SPLCD's Status LED illuminates. When the voltage drops to 0 the LED extinguishes. The LED works in conjunction with the *Line Input Role* setting (see above).

BACKLIGHT SETTINGS: Determines the amount of time the SPLCD backlight remains ON after its display is last touched.

RC68 SYSTEM: Refers to the group of incoming IR codes that will trigger outgoing SPLCD RC68 code macros. The SPLCD default *System* code group is C9.

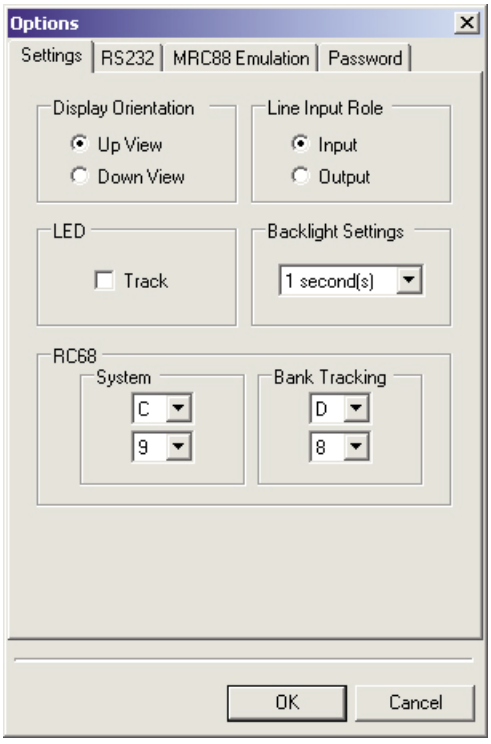

Figure 21: SPLCD Project Options *settings screen*

RC68 BANK TRACKING: When two or more SPLCDs are set to the same *Bank Tracking* code, they will track source selections so that when the source on one SPLCD is changed, other units sharing its *Bank Tracking* code will automatically switch to that source control screen.

RS232 (see *Figure 22*) configures the SPLCD's rear-panel serial control port:

- To control multiple RS232 devices with a Xantech RS2321X8 router, check *Xantech's RS232 Router Enabled.*
- To have the RS2321X8 always return to the port selected by the *Default Router Port* drop-down menu, check *Router's Default Port Enabled*.
- To configure each router port's RS232 protocol, select the port in the Router Port drop-down menu, and select the appropriate *Baud Rate, Data Bits, Parity,* and *Stop Bits.* Repeat this for each router port in use.
- If a Xantech RS232-controllable device is being controlled, select the appropriate driver from the *Driver* drop-down menu when configuring the router port the device is connected to.
- The *Dictionary* option in the Driver drop-down menu lets you create a window for displaying information on the SPLCD screen that has been sent by a 2nd-party RS232 device. For more information, please go to **http://www.xantech.com/ products/software/Data%20Dictionary. pdf.**

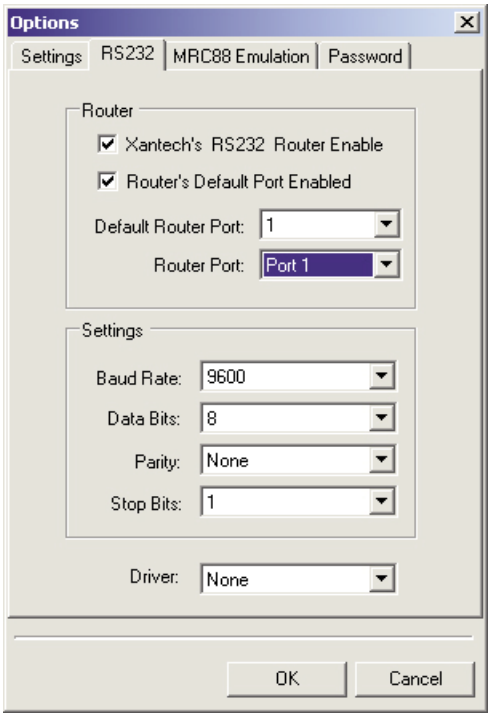

Figure 22: SPLCD Project Options RS232 *screen*

MRC88 EMULATION: A SPLCD controller can be integrated into MRC88 audio systems by configuring it for MRC88 emulation (see *Figure 23*). For connection information and complete programming details please see the *Smartpad LCD Installation & Programming Manual*.

1. After creating all of the SPLCD's control screen layouts (see pages 8 – 11), select the *MRC88 Emulation* tab in the *Project Options* window.
2. If you're using more than one keypad in a zone, use the *Keypad Address* drop-down menu to assign each one its own keypad address.
3. In the *Source Name* section, enter the name of each source as it appears in the MRC88 project. This assures that the MRC88 *Status* function displays the proper source names.

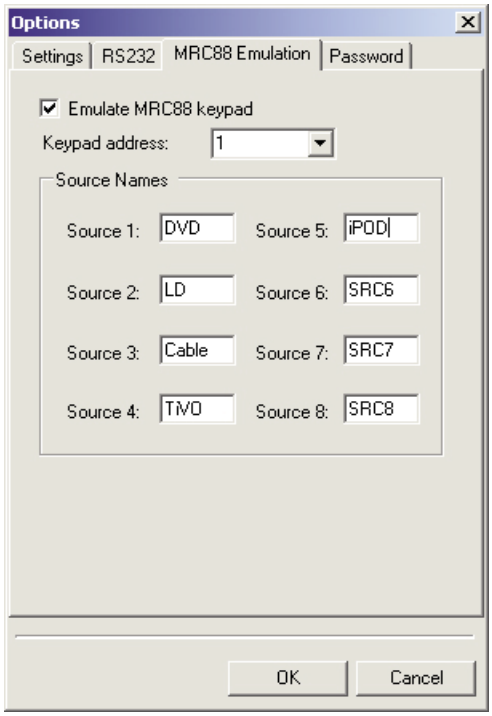

Figure 23: SPLCD Project Options MRC88 Emulation *screen*

Programming the SPLCD for MRC88 internal command functionality (see *Figure 24*):

1. In the SPLCD Programming Window, select a Source button.2. Select the *Internal Commands* tab.
2. In the *Internal Command* drop-down menu, select *MRC88 Button Emulation*.
3. Select the desired MRC88 button function from the drop-down menu.
4. Click on the *Accept* button. The selected function command will appear in the Macro Window.
5. Repeat Steps 3 – 5 for each Source button on the SPLCD. You can also repeat the procedure for any SPLCD Function button that emulates one of the MRC88 keypad functions, such as *Stop, Play, Pause*, etc.

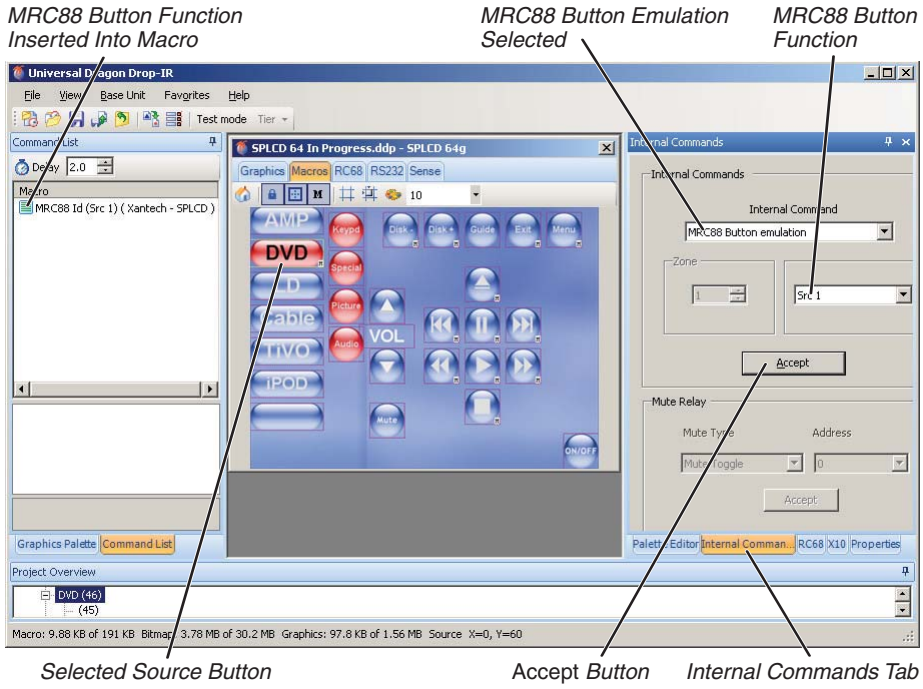

Figure 24: SPLCD MRC88 Button Emulation programming

PASSWORD (see *Figure 25*)**:** You can establish a password to prevent unauthorized operation of the SPLCD. When the SPLCD is in the password lock mode, touching the screen will automatically display a factory-programmed unlock screen. The SPLCD will remain locked until the correct unlock code is entered into the unlock screen.

1. Check the *Enabled* box in the *Password* Project Options screen to activate the password function.
2. Use the *Auto Lock Timeout* drop-down window to determine the period of SPLCD screen inactivity that will initiate the password lock function. The range is 5 seconds to 30 minutes.
3. Use the *Password (4-10 digits)* window to set the password key.

You can also use the *Password Lock* internal command to create a screen button that will place the SPLCD into the password lock mode whenever it is pressed. See *Internal Commands*, on page 11.

IMPORTANT: *THE PASSWORD FUNCTION IS ONLY AVAILABLE ON COMMERCIAL SPLCD UNITS. IF YOU TRANSFER SPLCD PROGRAMMING THAT INCLUDES THE PASSWORD FUNCTION TO A NON-COMMERCIAL SPLCD UNIT, THE PASSWORD FUNCTIONALITY WILL NOT BE ACCEPTED.*

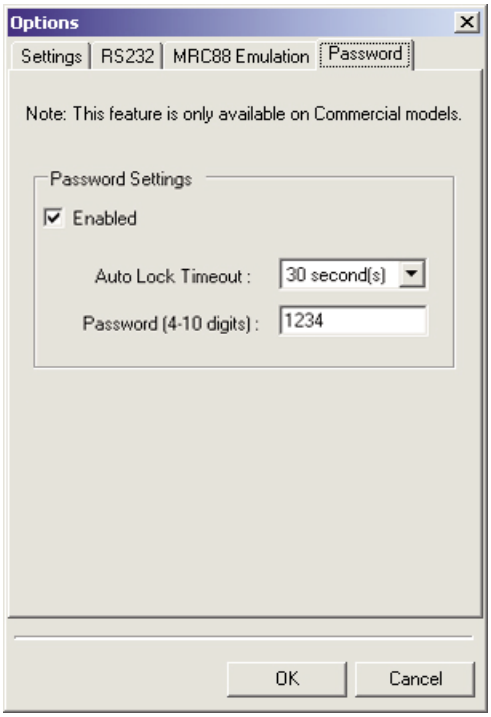

Figure 25: SPLCD Project Options Password *screen*

BASE-UNIT SPECIFIC EXAMPLES

MRC88 FAMILY

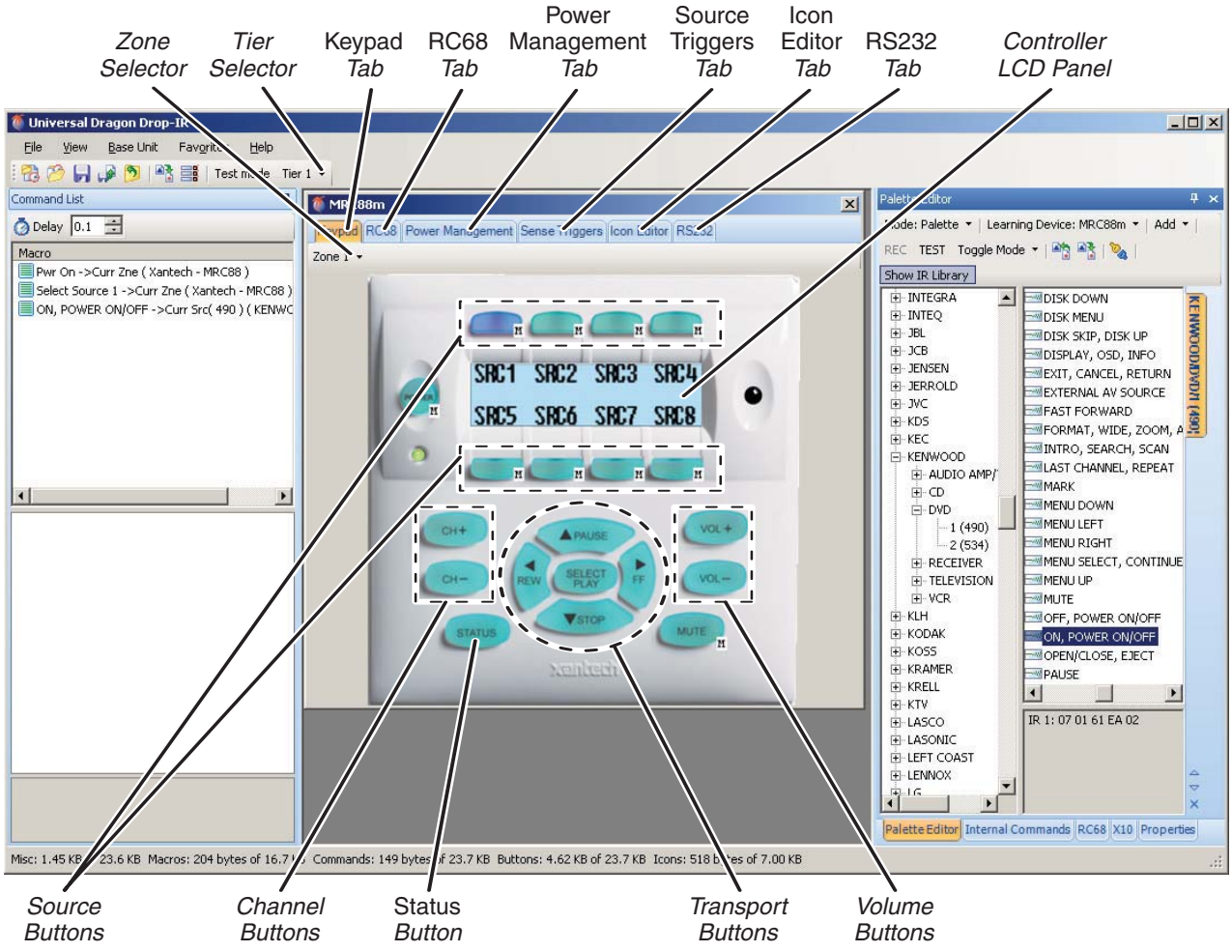

Figure 26: MRC88m programming screen

Labeling Source Icons

Before programming macros, you should label each of the system's source icons that appear in the Controller LCD Panel (see *Figure 26*).

1. Double-click the desired source icon. The *MRC Icon Text* window will appear (see *Figure 27*).
2. Type a name/icon for the source ("DVD", "iPOD", etc.). The name/icon can be up to four characters. The new name/icon will appear in the LCD Panel (see *Figure 28*).
3. Repeat Steps 1 – 2 for each of the system's source components.

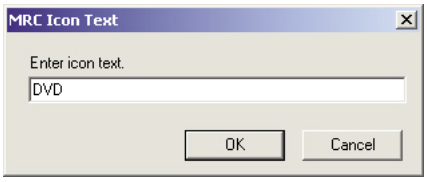

Figure 27: MRC Icon Text *window*

Macro Programming

The MRC88 keypad macros are programmed using the basic steps described on pages 4 – 5. Some MRC88 buttons are factory-programmed with default functions (indicated by "M" macro symbols). These default functions can be added-to as required for the project, but they cannot be deleted.

ZONE SELECTOR: A single Universal Dragon MRC88 project will contain the programming for all of that MRC88 unit's zones (up to 8). Each zone's controller module can be programmed individually (except for source buttons and icons) by using the Zone Selector (see *Figure 26*).

Figure 28: LCD Panel with source names/icons.

VOLUME, TRANSPORT AND CHANNEL BUTTONS: The volume buttons control the volume of the MRC88's built-in amplifier for that zone without requiring macro programming. If needed for the project, they can also be programmed to execute additional macro commands using the basic steps described on pages 4 – 5.

The volume, transport and channel buttons (see *Figure 26*) can be programmed to execute different macros for each of the system's source components:

1. Select the desired source button.
2. Select the desired volume, transport or channel button and program its macro using the steps described on pages 4 – 5.
3. Repeat Steps 1 – 2 for each of the system's source components.

If you want any of the volume, transport or channel buttons to execute the same macro no matter what source is selected:

1. Right-click on the desired function button after you have completed programming its macro.
2. Select *Punch (Zone)* from the menu that appears.
3. Select *Yes* in the *Punch System Level* dialog box that appears.

***STATUS* BUTTON:** The controller's *Status* button is used in combination with other controller buttons to display various aspects of the system's status on the controller's LCD display, and cannot be programmed to execute a macro.

INTERNAL COMMANDS: You can insert an extensive variety of MRC88 internal commands into macros, including the following:

- Settings for the zone's power, volume, balance, treble and bass, and muting.
- Settings for linking and unlinking zones enabled for dynamic linking (see *Zone Linking*, on page 17).
- Main Zone/Sub Zone settings for zones with sub zones.
- Commands for controlling a Sonance iPort® dock in the RS-232 control mode. (To control the iPort via IR, use the Palette Editor to program the iPort, as described on pages 4 – 5.)
- RS-232 metadata commands for Xantech XIS100, XT1 and Sonance iPort docks.
- Settings for 'tweaking' the system via RC68 (trim adjustments, max volume settings. page volume settings). Note: These are installer-only functions and would almost never be included in an end-user accessible macro. See *Section* 7 of the MRC88 Installation Instructions for more information.

To add an internal command to a macro (see *Figure 29*):

1. Click on the *Internal Command* tab.
2. Select the desired internal command and state with the Internal Command Selector.
3. Select the button on the MRC88 workspace to which you want to apply the macro command.
4. Click on the *Accept* button.

The internal command will appear in the Macro Window.

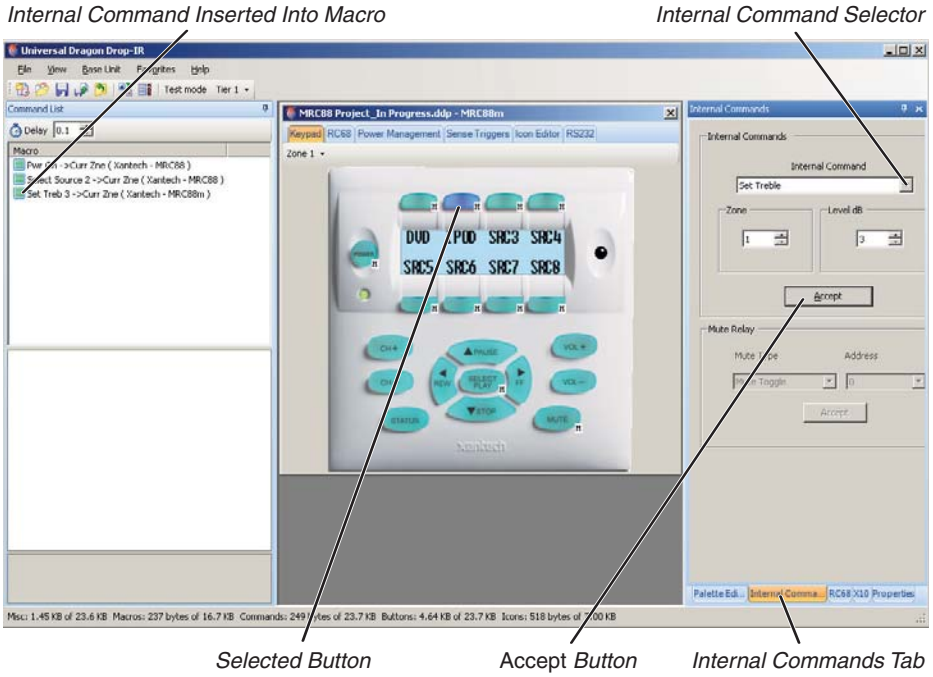

Figure 29: Adding an internal command to an MRC88 macro

Copying Macro Programming to All Zones

Once you have completed macro programming for Zone 1, if all zones are to have the same programming you can copy the Zone 1 programming to all zones.

1. With Zone 1 selected, right-click on any button.
2. Select *Punch (System)* from the menu that appears.
3. Select *Yes* in the *Punch Zone Level* dialog box that appears.

Project Options: Controller (see *Figure 30*)

Backlight Settings: Sets the amount of time the keypad LCD panel and button backlight remains active after the last button press.

IR Routing: When *Routing Enable* is selected, IR commands are directed only to the emitter outputs specifically configured for the source selected in a zone, and not to the other source emitter outputs. When *Routing Enable* is de-selected, IR commands are directed to ALL emitter outputs. Emitters configured as *Common* will always output all IR commands.

Expanded System: Select when two MRC88 units are linked for expanded operation via their Expansion Ports.

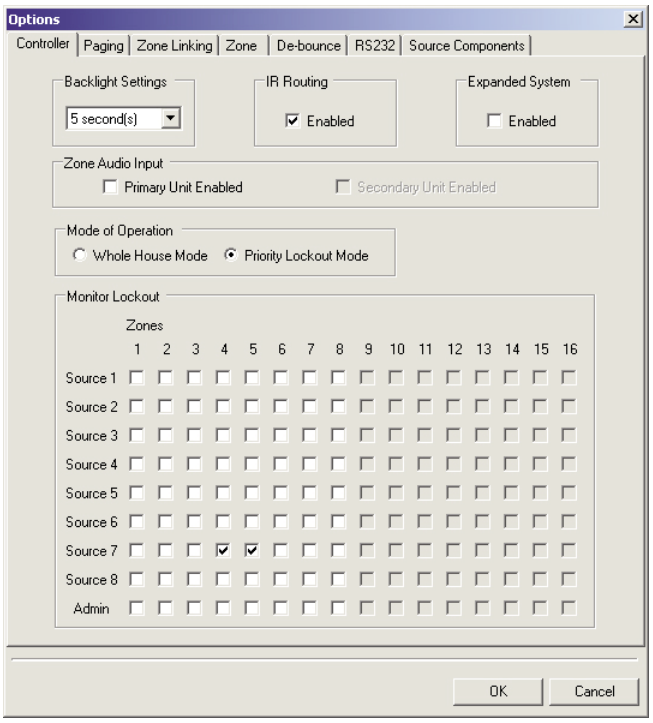

Figure 30: The Project Options Controller *window.*

Zone Audio Input: Activates the MRC88's rear-panel *Zone Audio Inputs*. When selected, each component connected to an MRC88 Zone Audio Input becomes a dedicated Source 1 input for that zone. (Each zone has its own dedicated *Source 1* source.) If *Zone Audio Input* is selected on this Project Options screen, Source 1 will be inoperative for any zone that does not have a source connected to its *Zone Audio Input*.

Note: The Zone Audio Inputs are audio-only.

Mode Of Operation: *Whole House Mode* allows any zone to monitor and control any source. *Priority Lockout Mode* activates the Monitor Lockout matrix, which prevents designated sources from being monitored and controlled in designated zones. Place a check-mark in the box corresponding to the source to be excluded from the selected zone. For example, in *Figure 30* Source 7 has been excluded from Zone 4 and Zone 5.

Project Options: Paging (see *Figure 31*)

Note: The Paging Project Options will only function if the system includes a DPC100 Doorbell/Paging module.

Enabled: Select to enable the MRC88 paging function.

Control Source: Select the source whose *Sense* connection you want to act as the trigger for paging.

Switch Type: Select triggering from an audio signal or a video signal.

Page Duration: Lets you select a specific time that the system will remain in the paging mode before returning to normal operation. You can also have the paging time be determined by the control source.

A/V Source: Select the source of the paging signal.

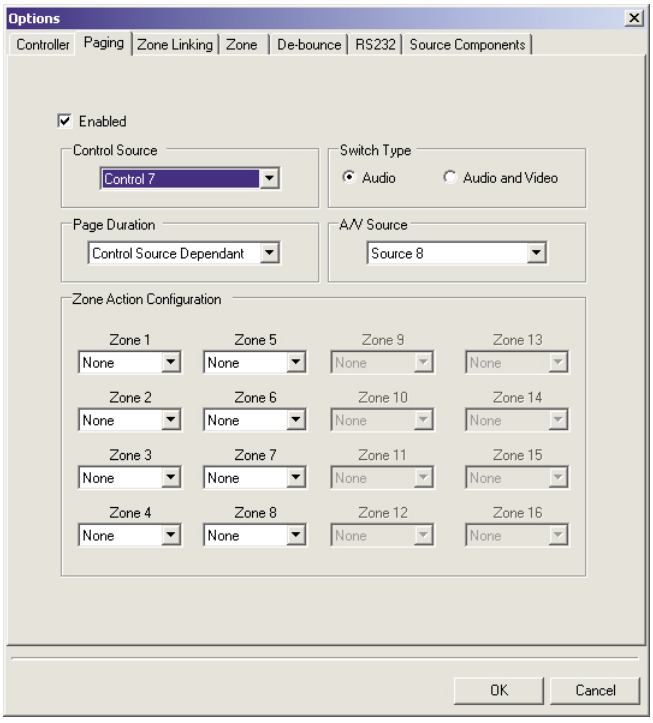

Figure 31: The Project Options Paging *window.*

ZONE ACTION CONFIGURATION: Determines how each zone will react when the MRC88 receives a paging control signal:

- NONE: The zone will take no action
- MUTE ONLY: The zone will mute, but will not play the paging A/V signal.
- WHEN ON: The zone will play the paging A/V signal only if it is already ON.
- ALWAYS: The zone will play the paging A/V signal regardless of whether it is already ON or if it is OFF.

Project Options: Zone Linking (see *Figure 32*)

Zones in the MRC88 System can be linked together to allow any combination of zones to behave as a single zone with regard to power (ON/OFF) and source selection. For example, if Zones 1 and 2 are linked, when either is turned ON or OFF, both will turn ON or OFF simultaneously. Source selections and source content will be identical in both zones. Volume and Muting can still be individually controlled in each of the linked zones.

The Project Options *Zone Linking* screen allows you to link zones statically (always linked) and dynamically (linked via a macro command). In the example shown in *Figure 32*, Zones 1 and 2 are statically linked while Zones 7 and 8 are dynamically linked.

For complete information on MRC88 zone linking, see the *Zone Linking Programming* section of the *MRC88 Installation Instructions*.

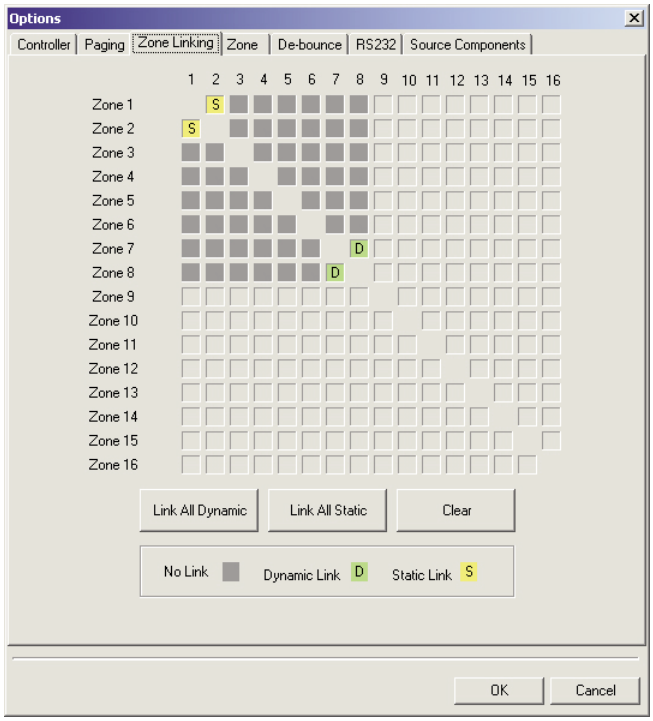

Figure 32: The Project Options Linking *window.*

Project Options: Zone (see *Figure 33*)

ZONE NAME: Lets you assign a name to each zone for easier planning and programming.

GROUP CODE: Sets the outgoing Bank Tracking Group Code (the default code is A8). See *Project Options Bank Tracking*, on page 6.

PREAMP VOLUME SETTINGS: *Variable* links the zone's preamp output volume to the zone's speaker level setting. *Fixed* fixes the zone's preamp output volume at line-level (0dB attenuation). *Sub-Zone* allows the zone's preamp output volume to be controlled by a sub-zone keypad that is designated in the screen's *Sub-Zone Keypad Address* box.

IR LOOP BACK SETTINGS ENABLED: Enables the in-zone IR emitter output located on the back of the MRC88 keypad. When enabled, IR signals received by the keypad's IR receiver as well as any IR signals from any keypad that are routed to the zone will be sent to the in-zone emitter output.

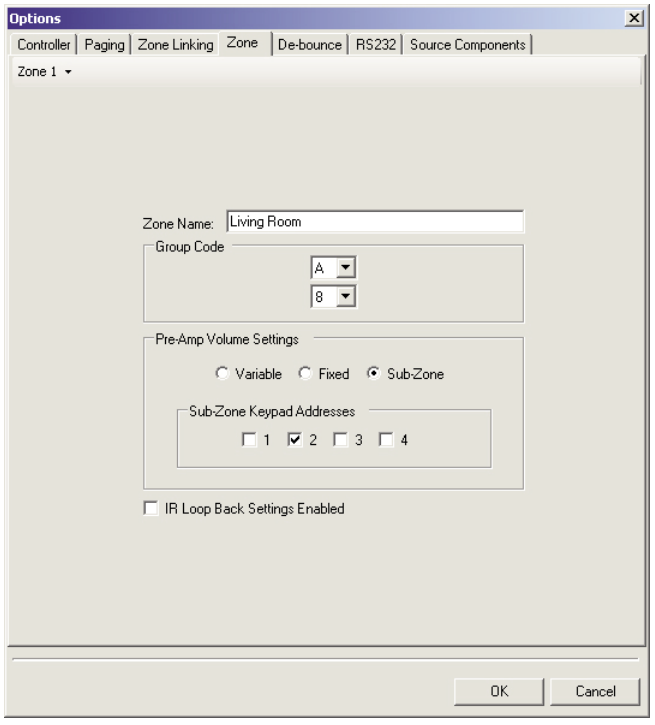

Figure 33: The Project Options Zone *window.*

Project Options: De-bounce (see *Figure 34*)

De-bounce is the amount of time switches and relays need to stabilize. The *De-bounce* window lets you adjust the de-bounce time individually for each of the MRC88's eight *Sense* inputs. The factory default setting of '3' should be tried first. For a faster switch, try the '1' setting. For slower switches change as needed to allow the controller to sense the switch or relay condition.

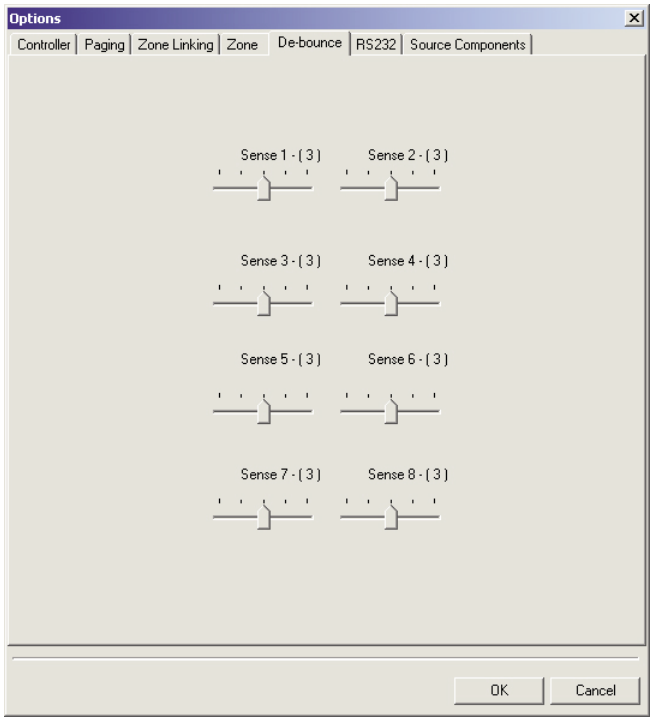

Figure 34: The Project Options De-bounce *window.*

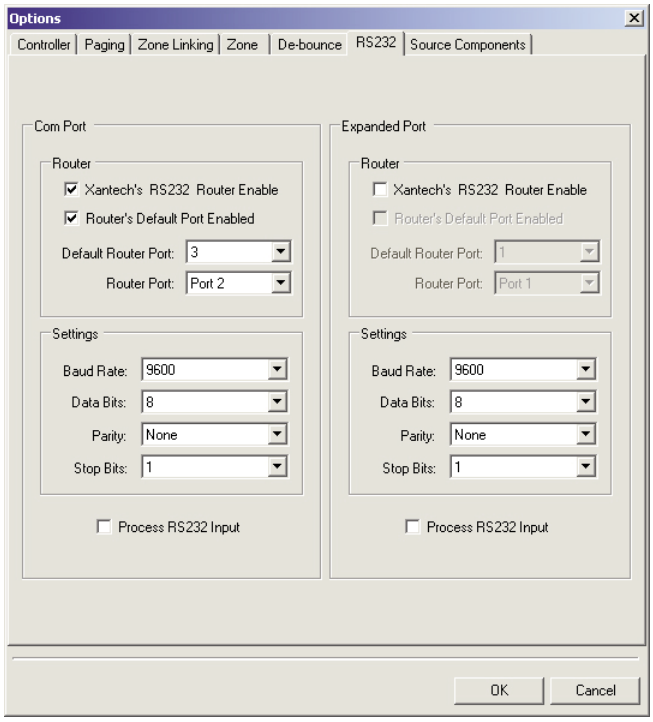

Figure 35: The Project Options RS-232 *window.*

Project Options: RS-232 (see *Figure 35*)

Establishes the RS-232 settings for the MRC88's Com Port and Expansion Port, as well as settings for using a connected RS2321X8 RS-232 router.

Process RS232 Input: Enable this setting when the MRC88's RS232 port will be used to receive data to control the MRC88 System from a PC or other RS232 device. If the RS232 port will only be used to control external devices from its keypad controllers, disable this setting to prevent the MRC88 system from misinterpreting erroneous data.

Project Options: Source Components (see *Figure 36*)

Enables settings between the MRC88 and several specific source components: the Xantech XDT Dual Tuner, the Xantech XMUSICWP Music Server, the Sonance iPort® iPod®/iPhone® docking system and the Xantech XIS100 iPod Integration Dock.

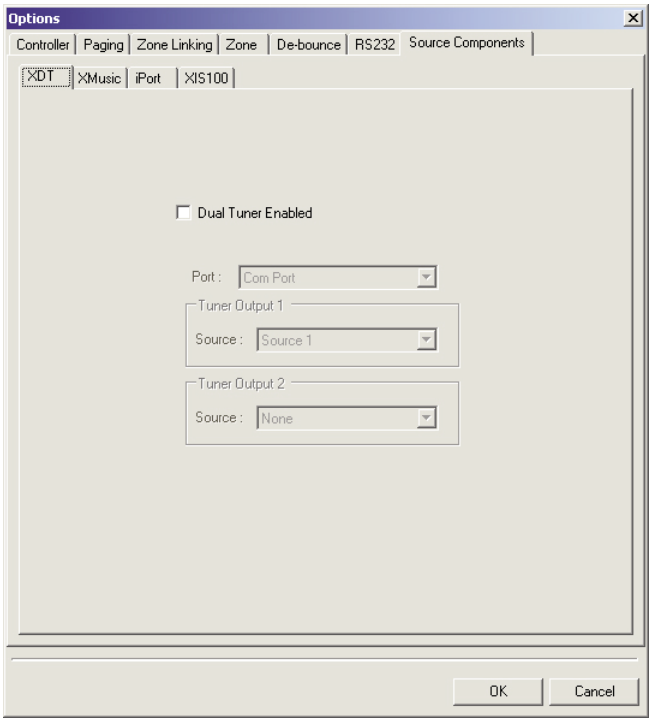

Figure 36: The Project Options Source Components *window.*

BASE-UNIT SPECIFIC EXAMPLES

XTR39

The XTR39 offers operational sophistication and flexibility similar to the Smartpad LCD family of in-wall controllers in a hand-held unit. The XTR39 programming screen begins as a blank screen workspace (see *Figure 37*). Each of the system's components will need to have its own LCD control screen with its own particular set of control buttons. Normally, each of these screens would have to be created from scratch, with each button selected and positioned individually — a very time-consuming process. This process can be streamlined by using Universal Dragon's *AutoBuild Wizard* (see below). In addition to the touch screen, the XTR39 has programmable hard-key function buttons programmable hard-key cursor buttons.

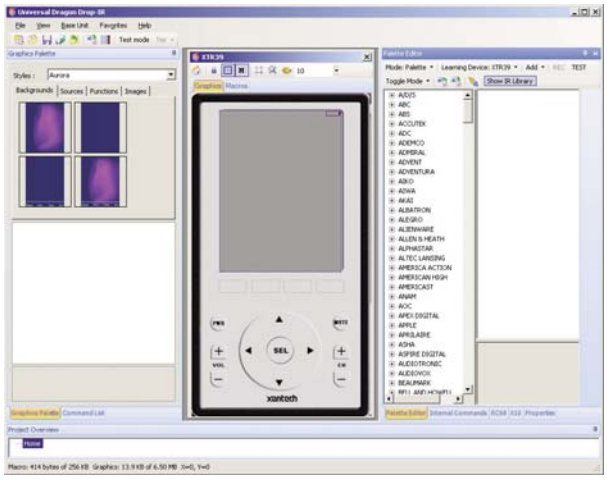

Figure 37: The XTR39 Screen Workspace (empty)

Figure 38: XTR39 DVD Control Screen Created with AutoBuild Wizard

AutoBuild Wizard

Universal Dragon includes an AutoBuild Wizard (*File > AudoBuild Wizard*) that streamlines the process of creating individual XTR39 component control screens (see *Figure 38*). AutoBuild Wizard creates complete component control screens (including some basic macros) in just a few steps. This can save you a great deal of programming time, while still providing you with the ability to customize each screen with the particular buttons and macros required by the customer's specific desires and the installation's specific requirements.

XTR39 Programming

After selecting the XTR39 with the *New Project* function (*File > New Project > Handhelds > XTR39*), an empty XRT39 unit workspace appears (see *Figure 37*). You can re-size this unit as necessary by dragging its lower right-hand corner.

PROGRAMMING XTR39 HARD-KEY BUTTONS: The XTR39's hard-key buttons can be programmed with different functions for each source component.

We recommend programming any functions that will be used on all screens (such as the audio system volume and mute) into the XTR39's hard-key buttons for each source, so they will be accessible no matter what control screen is active.

SELECTING AND PROGRAMMING XTR39 TOUCHSCREEN ELEMENTS: The XTR39 provides graphic elements for the screen's background, and Graphical Touch Links (GTLs) that serve as source buttons and function buttons.

1. Select the *Graphics Pallete* tab to activate the Graphic palette window (see *Figure 39*, on page 20).
2. The *Styles* drop-down menu contains different sets of backgrounds and source, function and image buttons.
3. Select a style, then click on the *Backgrounds* tab, choose a background and drop it into the empty XTR39 screen.

NOTE: UNIVERSAL DRAGON ALLOWWS YOU TO COMBINE BACKGROUNDS, SOURCE BUTTONS, AND FUNCTION BUTTONS FROM DIFFERENT STYLES.

4. Click on the *Home Layer* icon to activate the home page, then select the *Source* Graphic Elements Tab (see *Figure 39, on page 20*). Drop the desired Source buttons (one for each device to be controlled) onto the

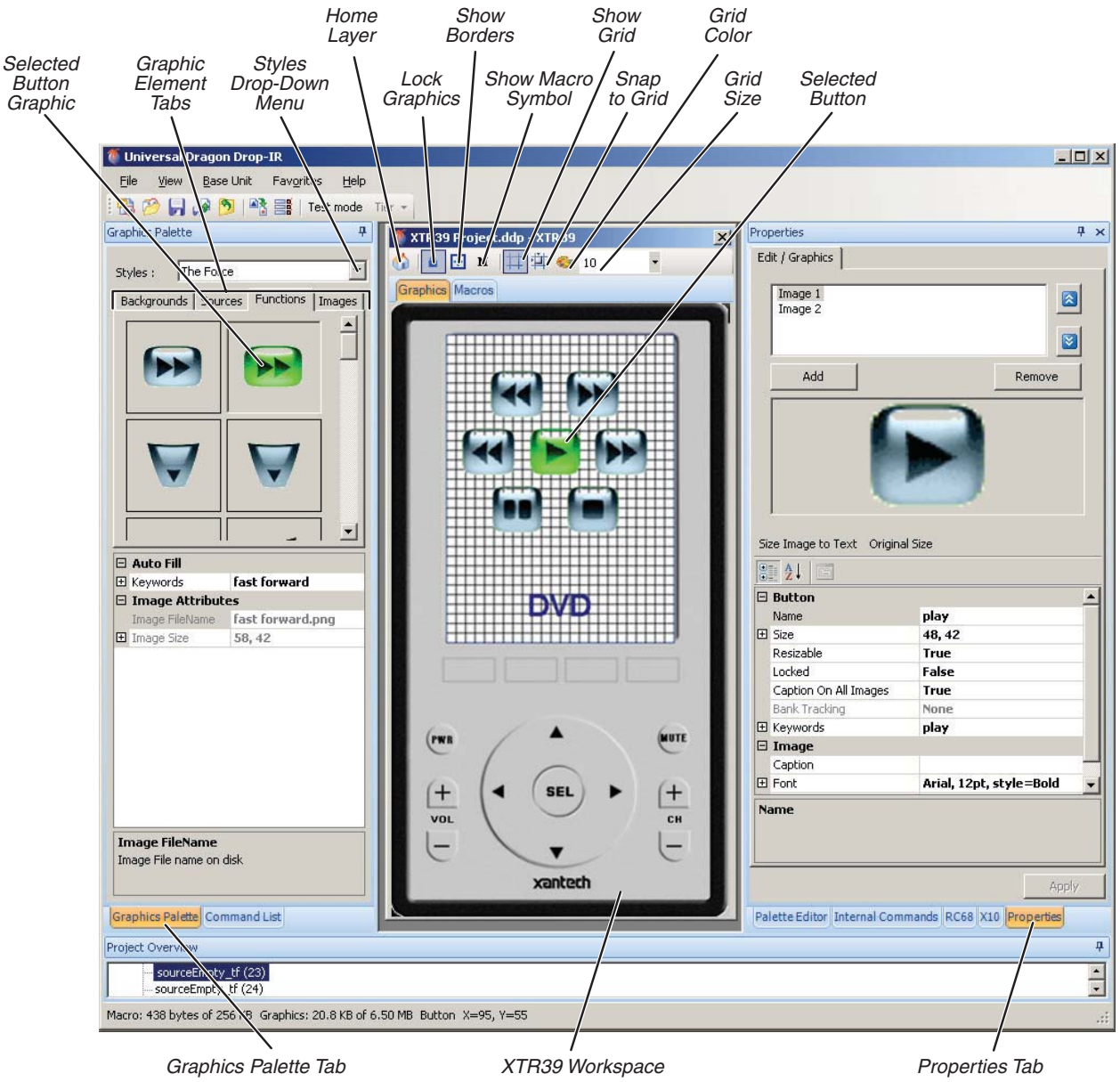

Figure 39: XTR39 Programming Screen

home layer (make sure that you're on the home layer before adding each Source button). You can program their macros (as described in *Build Macros*, on pages 4 – 5) now, or at a later time.

NOTE: TO HELP WITH POSITIONING ELEMENTS, THE XTR39 SCREEN WORKSPACE HAS AN ALIGNMENT GRID (ALONG WITH A "SNAP-TO" FUNCTION) THAT CAN BE TURNED ON AND OFF. EACH GTL HAS A BORDER (SHOWN AND HIDDEN BY THE SHOW BORDERS BUTTON) THAT SHOWS THE GTL PLACEMENT RELATIVE TO THE GRID. (SEE FIGURE 39.) ONCE ALL GTLS ARE IN PLACE YOU CAN CLICK ON THE LOCK GRAPHICS ICON TO PREVENT ACCIDENTAL MOVEMENT OF THE GTLS.

5. Once all of the Source buttons are in place, double-click on one and then select the *Functions* Graphic Elements Tab (see *Figure 39*). Drop the desired Function buttons for that source component onto the screen. You can program each button's macro (as described in *Build Macros*, on pages 4 – 5) now, or at a later time.
6. Click on the Home Layer button, and repeat *Step 5* for each Source button in the project.

CREATING CUSTOM XTR39 BUTTONS: The XTR39 lets you create text on blank Source and Function buttons (buttons that contain text or graphic elements cannot be edited). This lets you create customized buttons for sources and functions that are not included in the library by dragging and dropping blank buttons on screens and then labeling them.

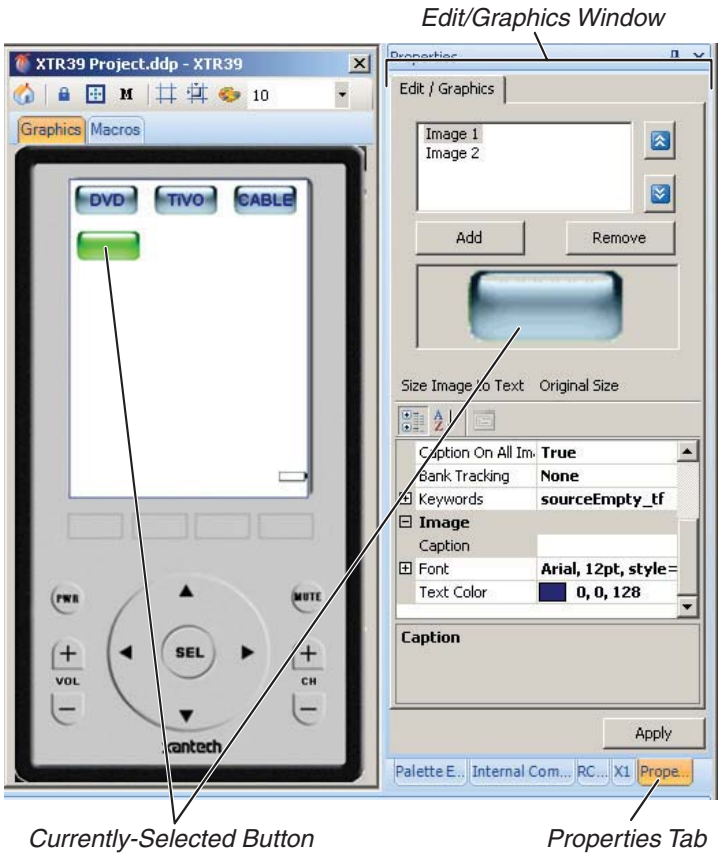

Figure 40: The Edit/Graphics Window

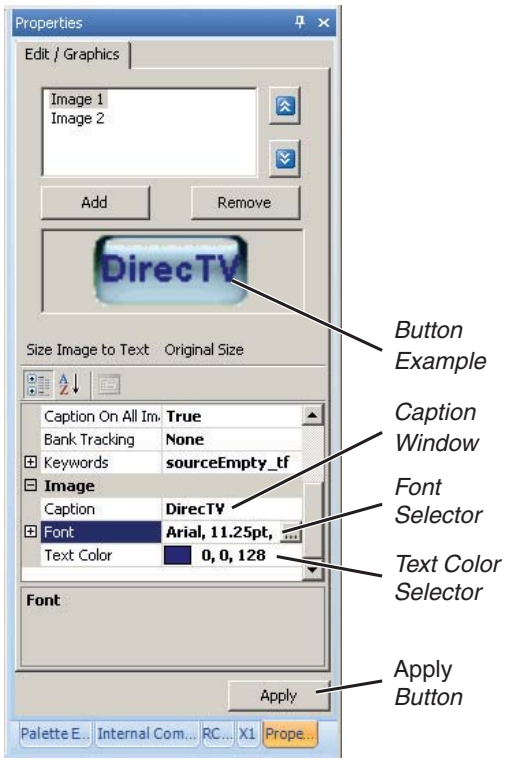

Figure 41: Edit/Graphics Window Text Tools

1. Click on the *Properties* tab. The *Edit/Graphics* window will appear (*Figure 40*), showing the currently-selected button.
2. Click the cursor in the caption window and type the text you want to appear on the selected button. After typing the text, click the cursor outside of the caption window and the text will appear in the button example (see *Figure 41*).
3. Use the font selector and text color selector to change the font style and size and text color of the button text in the button example (see *Figure 41*).
3. When you're finished formatting the text, click on the *Apply* button. The text will be applied to the selected button (see *Figure 42*).

BANK TRACKING: Each Source button can be assigned a unique Bank number for bank tracking during RC68 operation (see *Figure 42*).

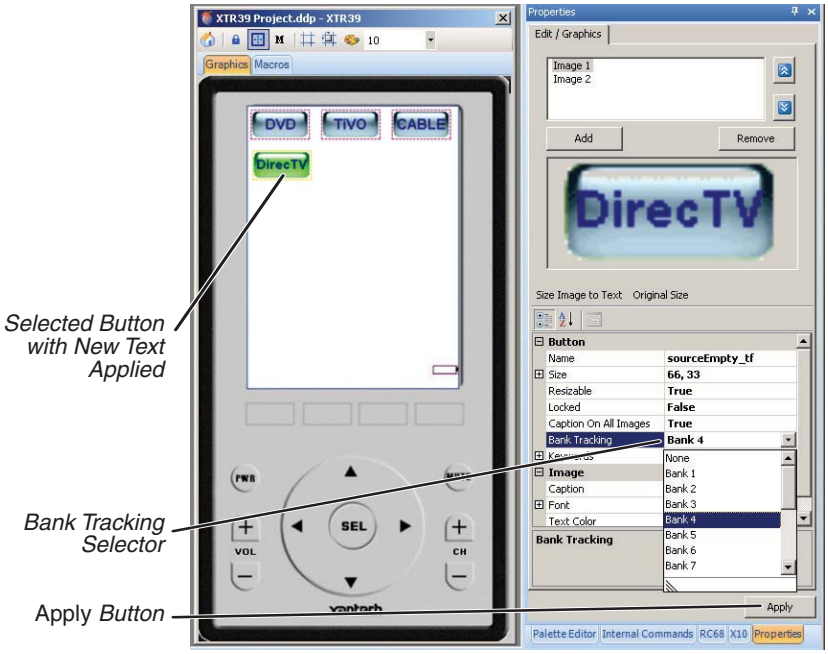

Figure 42: New Text Applied to Selected Button; Bank Tracking Selector

1. Click the cursor in the Bank Tracking Selector.
2. Use the drop-down list to select the Bank number.
3. Click on the *Apply* button to apply the Bank Tracking number to the selected Source button.

NOTE: SEE PROJECT OPTIONS BANK TRACKING, ON PAGE 6.

Project Options

BANK TRACKING (see *Figure 43, left*): Sets the outgoing Bank Tracking Group Code (the default code is D8). See *Project Options Bank Tracking*, on page 6.

RF2IR MODULE (see *Figure 43, right*): If you are using multiple XTR39/RF2IR controllers you will need to assign a unique network ID (1 ~ 254) to each RF2IR module. (ID #255 communicates with all modules.) You can also assign a name to each module and adjust its RS232 settings. Use the *Transfer Configuration* button to send the settings to the RF2IR module via the XTR39.

INTERNAL COMMANDS (see *Figure 44*): The XTR39 lets you insert the following internal commands into macros: *Set Backlight ON/OFF, Brightness Step UP/Step DOWN, Contrast Step UP/Step DOWN, Audio Feedback ON/OFF (*the XTR39 will emit an audible beep each time a button is touched), *Motion Detect ON/OFF* (the backlight will automatically turn ON whenever the XTR39 is picked-up or moved), *Start Screen Calibration/Test Screen Calibration* (enables you to create a calibration screen for the XTR39's touchscreen), *Increase/ Decrease RF Channel.*

To add an Internal Command to an XTR39 macro (see *Figure 44*):

1. Click on the *Internal Command* tab.
2. Select the desired internal command and state with the Internal Command Selector.
3. Select the button on the XTR39 to which you want to apply the macro command.
4. Click on the *Accept* button.

The internal command will appear in the Macro Window.

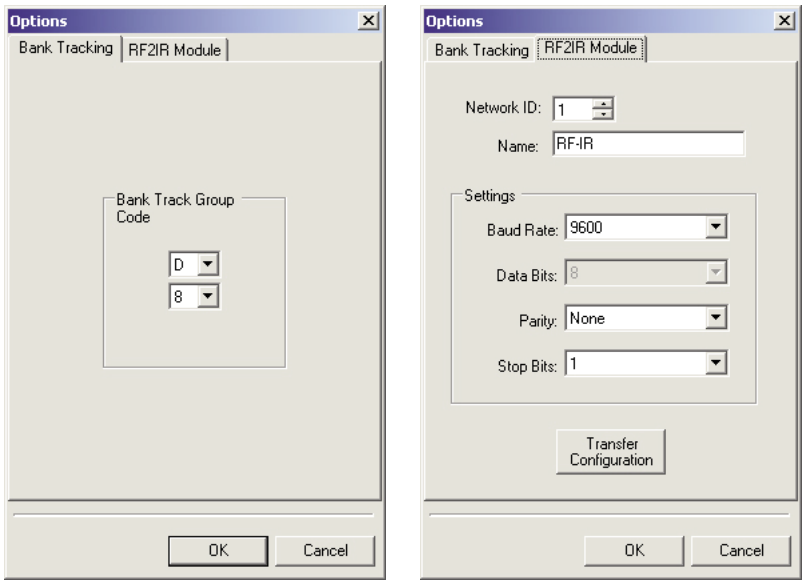

Figure 43: XTR 39 Project Options Bank Tracking (left); RF2IR Module (right)

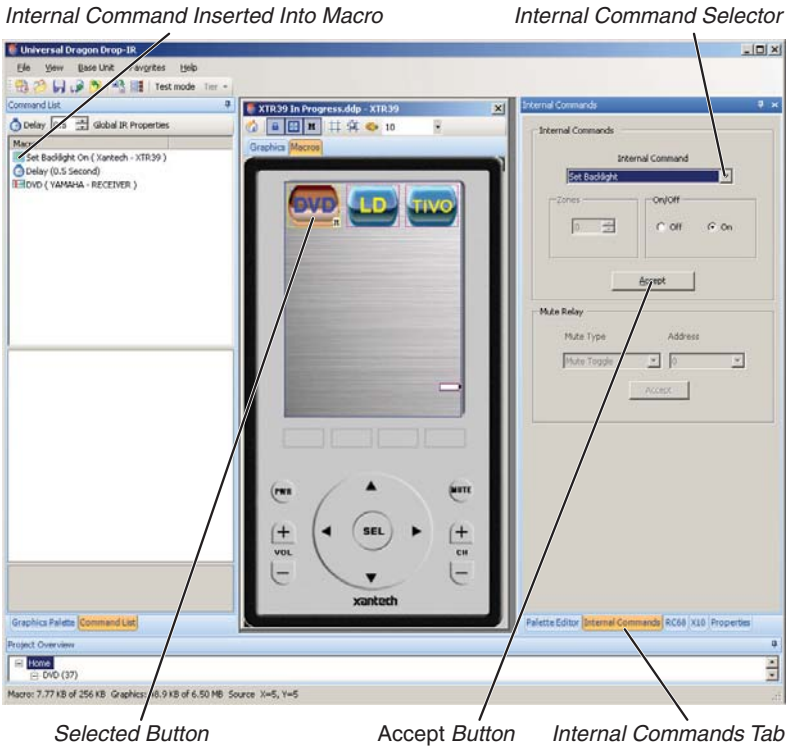

Figure 44: Adding an Internal Command to an XTR39 Macro

Macro Command Properties

You can convert individual macro commands from IR to RF when the RF2IR module is being used:

1. Right-click on the command in the macro window. The *Properties* window will appear (*Figure 45*).
2. Set the output type for the command to RF.
3. Select the network ID for the particular RF2IR module that you want to output the command. ID# 255 communicates with all connected RF2IR modules.
4. Select the individual RF2IR IR emitter ports that you want to emit the command.

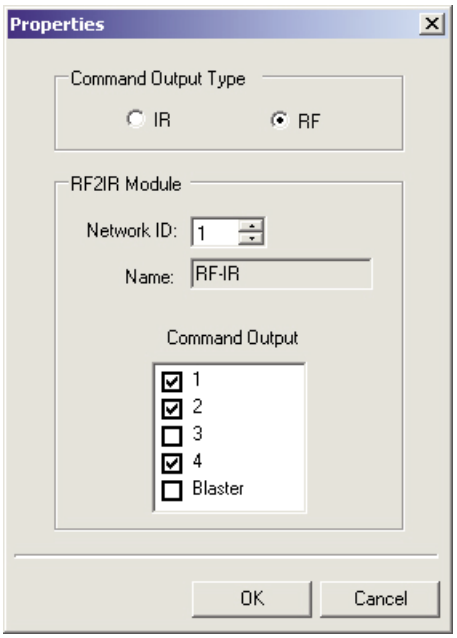

Figure 45: The IR command Properties *window.*

Global IR Properties

You can also convert entire existing XTR39 projects to work with the RF2IR module without having to modify every command in the project. The *Global IR Properties* button (available when the Command List tab is selected) displays the *Global IR Properties* window (*Figure 46*).

Existing RF Commands: This tells RF/IR converters what to do with commands that are already programmed as RF. Selecting the *Change Network ID Only* box changes the network ID portion of existing RF commands (see *RF2IR Module*, below) while leaving the command portion of the output as programmed. Leaving the box unchecked changes the network ID *and* converts the command output to the selected type.

Note: The Existing RF Commands box only applies when the Command Output Type *is set to* RF *(see below).*

Command Output Type: Select RF. (Note: You can also convert entire XTR39 RF projects to IR, by selecting *IR*.)

RF2IR Module: Select the particular RF2IR module that you want to communicate with. There are 254 individual module IDs; #255 communicates with all modules. Then select the particular RF2IR emitter output that you want to send the command.

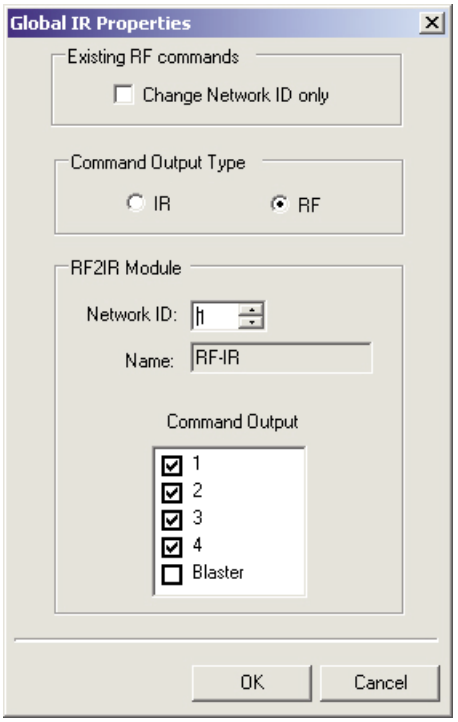

Figure 46: The Global IR Properties *window.*

BASE-UNIT SPECIFIC EXAMPLES

URC2

Programming Macros

Universal Dragon can be used to program macros on any URC2 button. URC2 button macros are programmed using the basic steps described in *Build Macros,* on pages 4 – 5.

Tiers

When programming the URC2 with Universal Dragon, each source and function button can be programmed in two 'tiers'. This allows each button to execute two completely different macros — one by pressing the button for less than one second, and another by pressing and holding the button for more than one second.

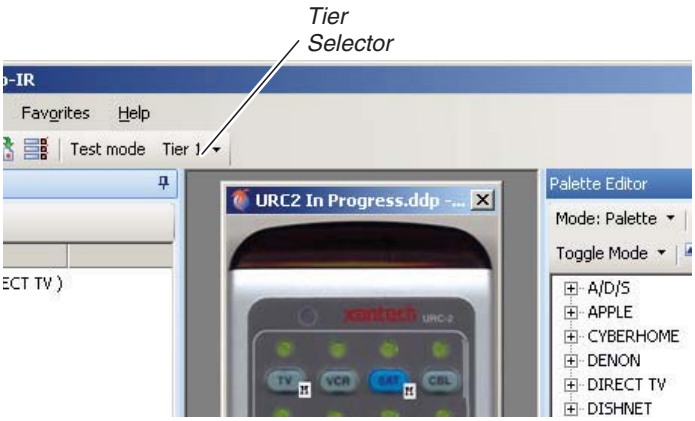

Figure 47: URC2 Tier selector

Figure 48: Tier 1 selected (left); Tier 2 selected (right)

Use the Tier Selector in the URC2 programming window (*Figure 47*) to select the Tier. When programming in Tier 1, selected buttons show on the programming screen in *blue*; when programming in Tier 2, selected buttons show on the programming screen in *red*. See *Figure 48*. Programming is the same in both tiers.

Internal Commands (see *Figure 49*)

You can insert the command for the URC2 to switch to either Tier 1 or Tier 2 operation into a macro.

1. Select the Tier you want the URC2 to shift to.
2. Select the button you want to program with the command.
3. Click the Accept button. The command will appear in the Macro Window.

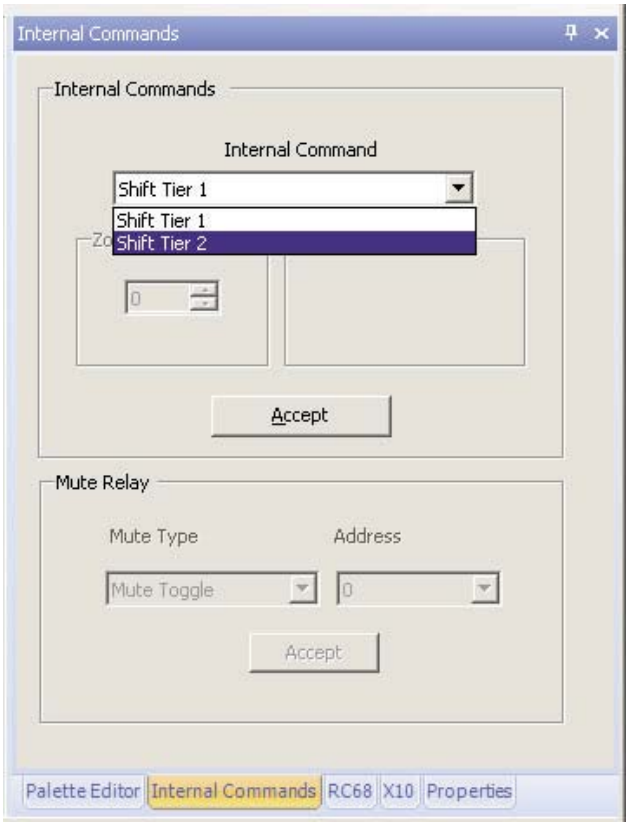

Figure 49: The URC2 Internal Commands *window*

BASE-UNIT SPECIFIC EXAMPLES

590-10

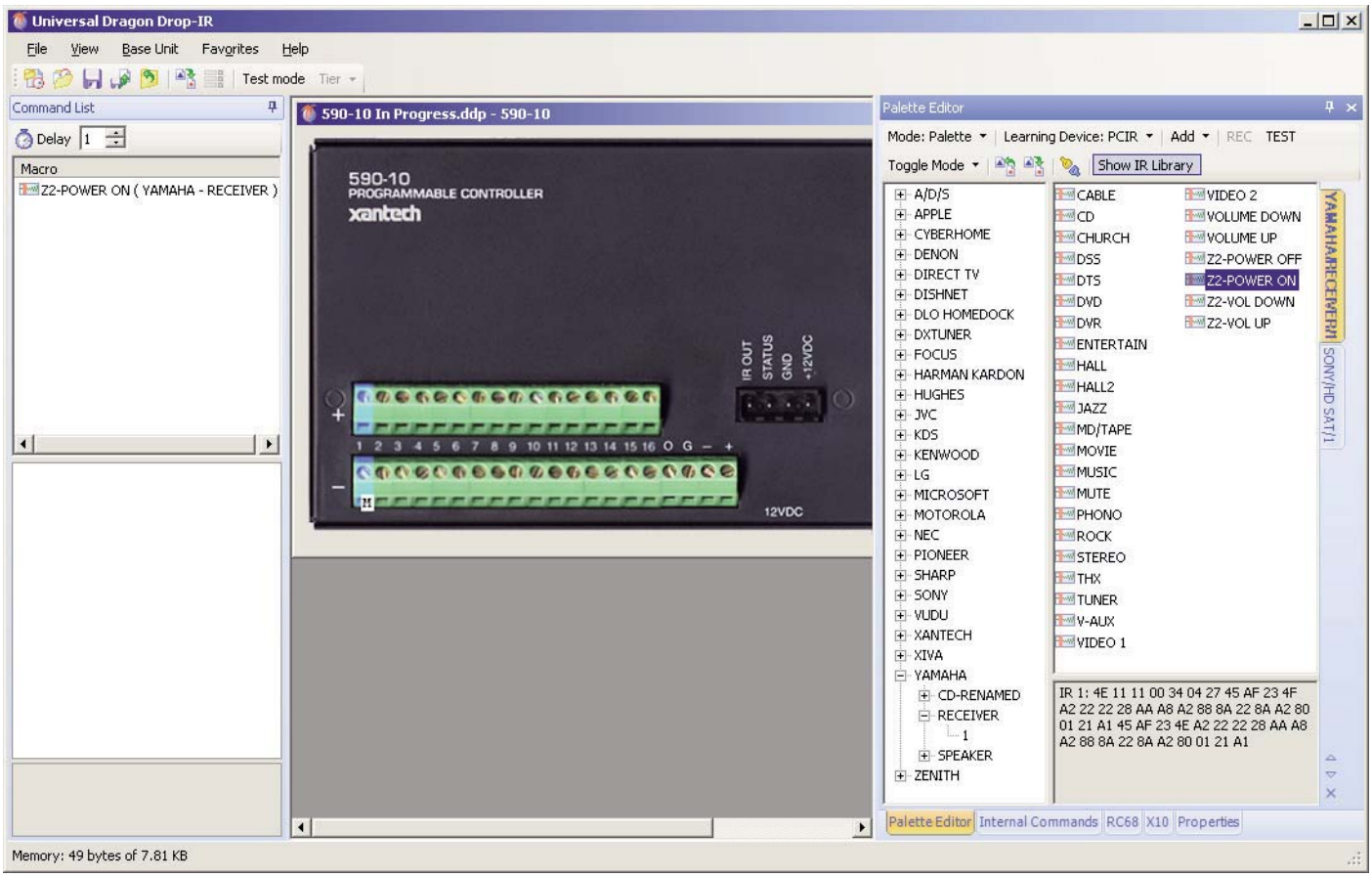

Figure 50: The 590-10 programming screen

Programming Macros

Universal Dragon can be used to program macros on any of the 590-10's sixteen inputs. 590-10 input macros are programmed using the basic programming steps described in *Build Macros*, on pages 4 – 5.

NOTE: THE 590-10 HAS NO PROJECT OPTIONS OR INTERNAL COMMANDS.

BASE-UNIT SPECIFIC EXAMPLES

MAC1

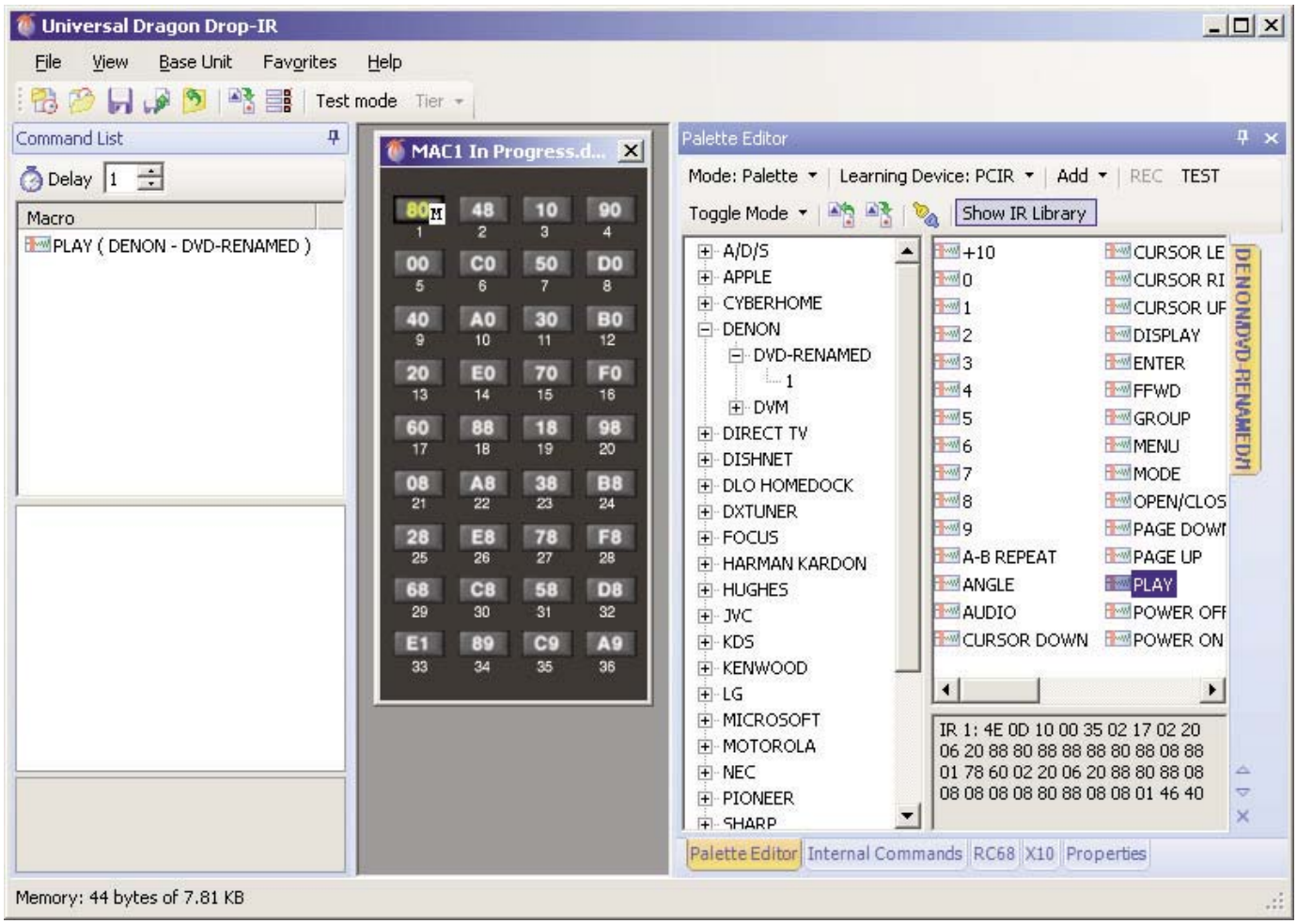

Figure 51: The MAC1 basic programming screen

Programming Macros

Universal Dragon can be used to program macros that will be triggered by any of the MAC1 remote's 36 buttons. (These macros can also be triggered by the corresponding 36 buttons on an RC68+ Programmer/Remote Control unit.) MAC1 macros are programmed using the basic steps described in *Build Macros*, on pages 4 – 5.

Project Options

Group Code: The MAC1's default group code for bank tracking is "8-0". You can use the Project Options screen (*Figure 52*) to change the group code. See *Project Options Bank Tracking*, on page 6.

NOTE: THE MAC1 HAS NO INTERNAL COMMANDS.

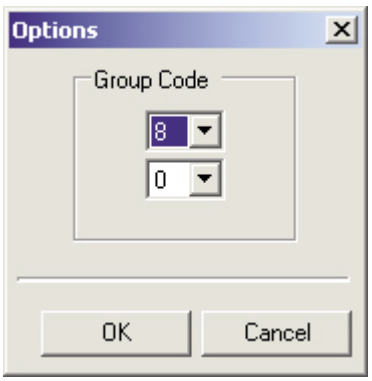

Figure 52: MAC1 Project Options Group Code *screen*

RC68 PROGRAMMING

PROGRAMMING RC68 COMMANDS IN OUTGOING MACROS

In addition to IR and RS232 commands, all Xantech programmable devices can also issue RC68 commands in macros. Programming these commands is the same for all Xantech programmable devices:

1. Select the *RC68* Programming Window function tab (see *Figure 53*). An RC68 keypad is displayed.
2. Select the button on the programmable device to which you want to add the RC68 command.
3. Select the desired RC68 function button on the RC68 keypad.

The command will be added to the macro for the selected button on the device.

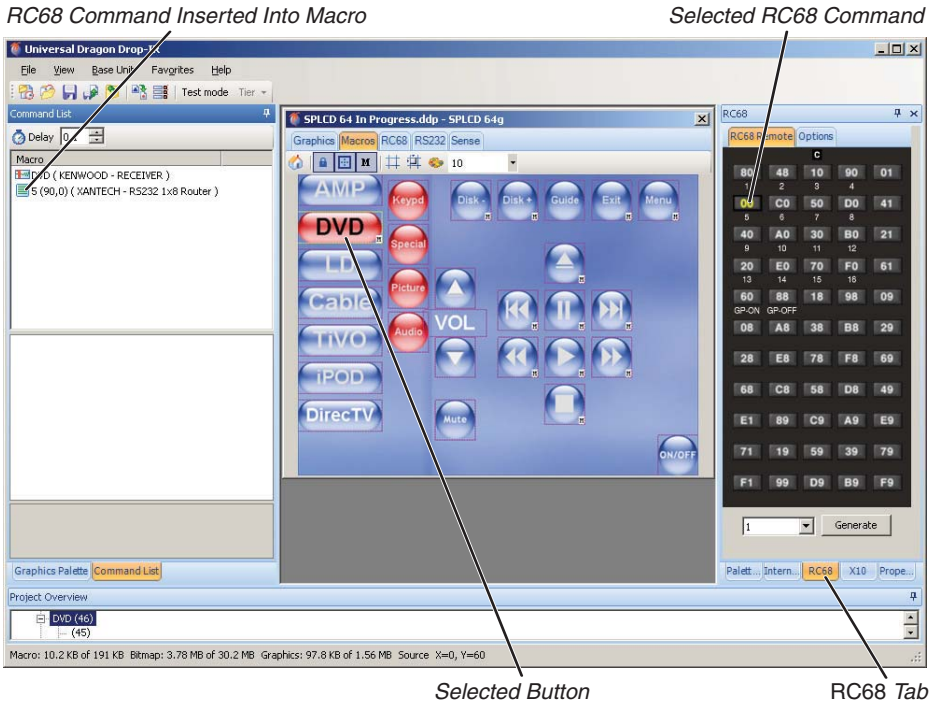

Figure 53: Placing RC68 commands in outgoing macros (SPLCD shown)

PROGRAMMING THE DEVICE TO RESPOND TO AN RC68 COMMAND

The Smartpad LCD series and MRC88/44 series of controllers are capable of issuing macros in response to receiving RC68 commands.

1. Select the RC68 tab in the SPLCD or MRC88/44 device window. The RC68 button layout will be displayed (see *Figure 54*).
2. Select the RC68 button to which you want the device to respond.
3. Build the macro according to the steps described in *Build Macros*, on pages 4 – 5.

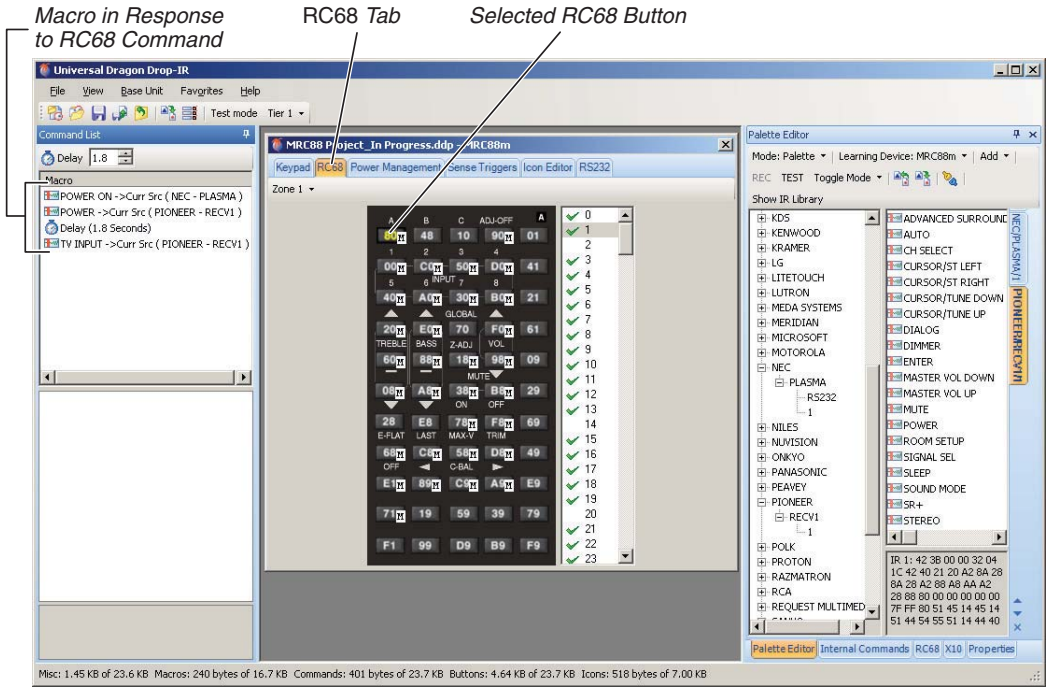

Figure 54: Building a macro that responds to an RC68 command (MRC88 shown)

IR LEARNING

The basic Universal Dragon IR learning procedure is the same for all Xantech programmable devices that are IR-learning capable. Read the instruction documentation for the particular programmable device before using Universal Dragon's IR learning procedure.

1. Select the *Palette Editor* tab to display the Palette Editor window (see *Figure 55*).
2. Change the Palette Editor mode to *Edit*.
3. Use the *Learning Device* selector to select the particular programmable device that you are using.
4. Be sure *Test* and *Show IR Library* are not selected.
5. Scroll the IR Library and click the '+' next to the brand of remote you are learning from. A sub-directory of components will appear. If the desired brand does not appear on the list you can create it:
   a) Click the *Add* menu and select *Brand*, or right-click anywhere in the brands list and select *New Brand* in the pop-up.
   b) A text box [*New Brand*] will appear at the bottom of the brands List. Type the name of the new brand and press *Enter* on the keyboard.
   c) The new brand name is added to the list and saved.

NOTE: THE NEW BRAND WILL ULTIMATELY BE SAVED TO THE IR LIBRARY BRANDS LIST ALPHABETICALLY, BUT WILL NOT APPEAR AS AN IR LIBRARY BRAND UNTIL AT LEAST ONE COMPONENT AND ONE FUNCTION HAVE BEEN PROGRAMMED TO IT. TO FIND A NEW BRAND THAT DOES NOT HAVE ANY COMMANDS PROGRAMMED, CHANGE THE PALETTE EDITOR MODE TO EDIT AND SCROLL THE LIST TO THE NEW BRAND.

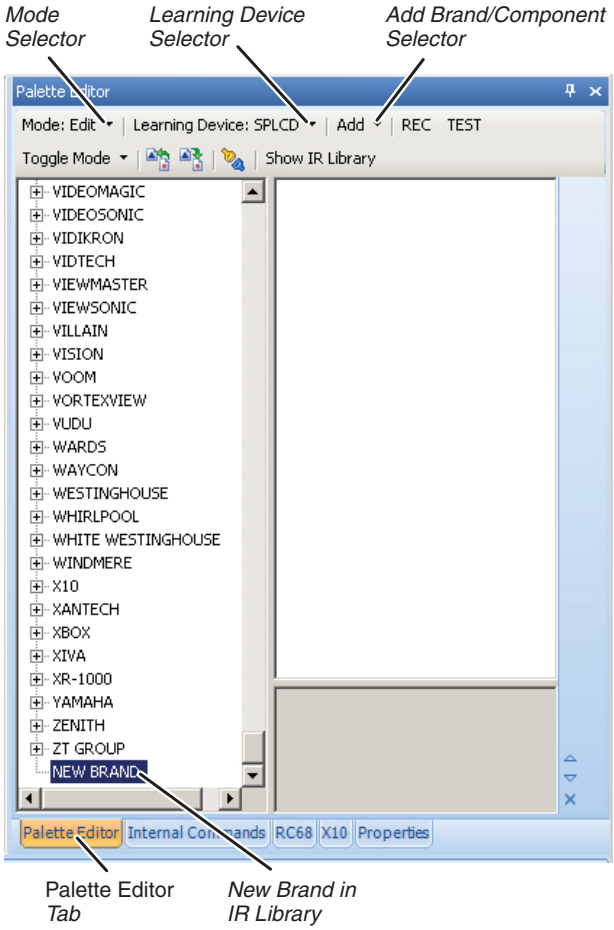

Figure 55: Palette Editor window in learning mode

6. Click the '+' next to the brand you are learning from. If the required component does not appear in the sub-directory, you can create it:
   a) In the brands list, select the brand to which you're adding the new component.
   b) Click the *Add* menu and select *Component*, or right click the selected brand then select *Add Component* in the pop-up.
   c) A text box [*New Component*] will appear at the bottom of the selected brand's components sub-directory. Type the name of the new component and press Enter on the keyboard.
7. A function list for the selected component will appear (see *Figure 56*). Review the function list and compare it to the source remote. If a particular function is not displayed or not named appropriately, you can add it:
   a) Right-click in the Command Window and select *Add Command* from the pop-up.
   b) Type the name of the new command and press *Enter* on the keyboard. The new command will be saved to the Command List and will be available for programming HEX, RS232 or IR commands for that specific brand and component.

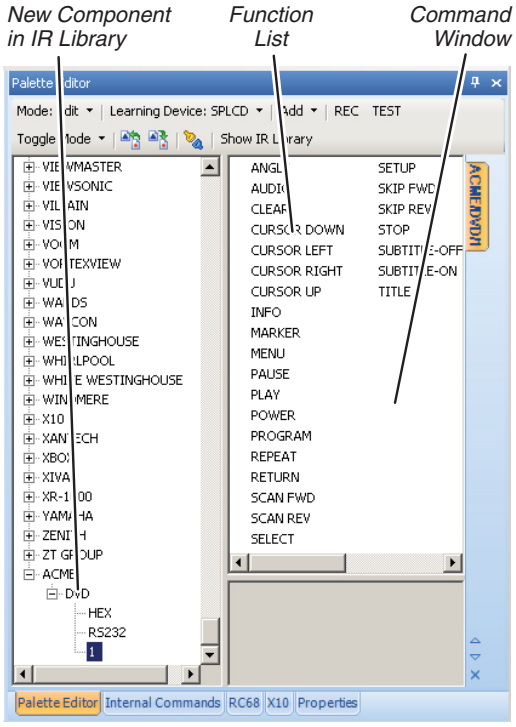

Figure 56: New component with un-learned commands

8. Click *REC* at the top of the Palette Editor. It will highlight to indicate that Universal Dragon is in the record mode.

IMPORTANT: BEFORE PROCEEDING, READ STEPS 9 – 12, *AS THE RECORD PROCESS IS A TIMED FUNCTION. THE AMOUNT OF TIME YOU WILL HAVE IS DEPENDENT ON THE PARTICULAR XANTECH DEVICE YOU ARE USING.*

9. Place the teaching (source) remote in the optimal position relative to the Xantech device.
10. In the Function List, select the command to be learned (i.e. Power, Play, Stop etc.). The *Learn IR* window will appear. You will have a certain number of seconds (dependent on the Xantech device) to learn the IR command.
11. Perform the learning procedure as outlined in the manual for the specific Xantech device. When the message *IR Learning Was Successful* appears, click *OK*. An XIR1 or XIR2 symbol will appear to the left of the selected function, indicating that an IR code has been successfully learned (see *Figure 57*).

*NOTE 1: IF YOU WAIT LONGER THAN THE ALLOTTED TIME, A TIME-OUT MESSAGE: '*FAILED TO LEARN IR TIMEOUT*' WILL APPEAR. CLICK* OK *AND TRY AGAIN. IF YOU CONTINUE TO HAVE PROBLEMS LEARNING COMMANDS, RUN A '*WHO AM I*' TO CONFIRM PC CONNECTION TO AND COMMUNICATION WITH THE XANTECH DEVICE.*

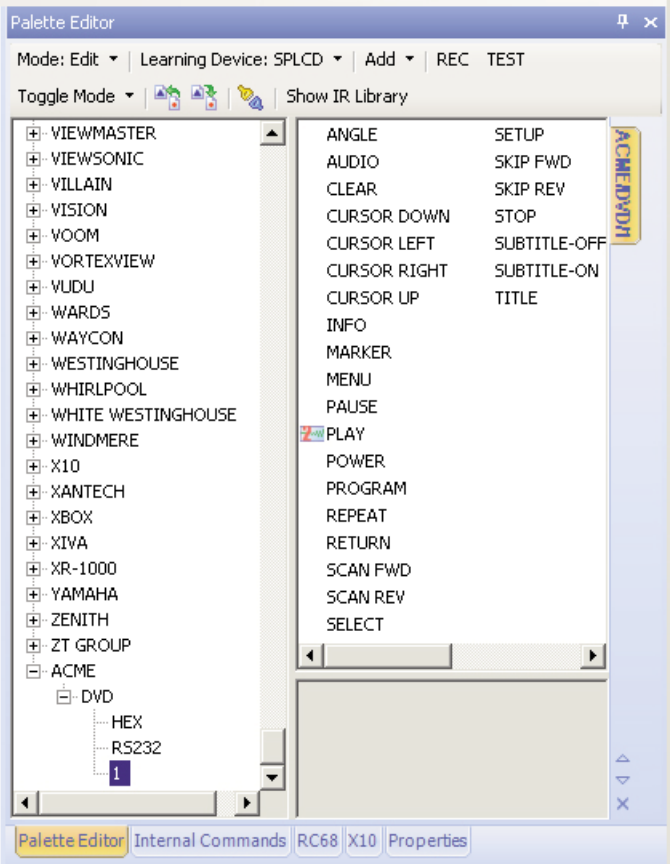

Figure 57: XIR2 Play *command successfully learned*

*NOTE 2: WHEN TEACHING COMMANDS, PRESS-AND-HOLD THE BUTTON UNTIL THE '*IR LEARNING WAS SUCCESSFUL*' MESSAGE APPEARS. NOT ALL IR CODES ARE STRUCTURED THE SAME. SOME WILL BE LEARNED WITH A PRESS-AND-HOLD WHILE OTHERS MAY REQUIRE A QUICK TAP OF THE TEACHING REMOTE BUTTON. SOME WILL REQUIRE A BUTTON PRESS DURATION SOMEWHERE IN BETWEEN.*

12. Repeat *Steps 9 – 12* for all command functions for your project that are not found in the IR Library.
13. All learned commands can now be utilized for programming: Change the Palette Editor mode to *Palette*, select *Show IR Library* and navigate the brand/component list to the learned commands.

TRANSFERRING PROGRAM INFO

VERIFYING COMMUNICATION

The easiest way to verify that Universal Dragon can communicate with the programmable device is by performing a *Who Am I* procedure.

1. Connect the device to your computer and verify that it is receiving power and is turned ON.
2. In the *Base Unit* menu, select *Who Am I*.
3. Select the device that you are programming from the drop-down menu (see *Figure 58*).

Figure 58: Who Am I *drop-down menu*

If the proper driver for the device is installed and Universal Dragon recognizes the com port the device is connected to, Universal Dragon will display the dialog box shown in *Figure 59*. You can then transfer the project to the device (see *Transferring The Project*, below.)

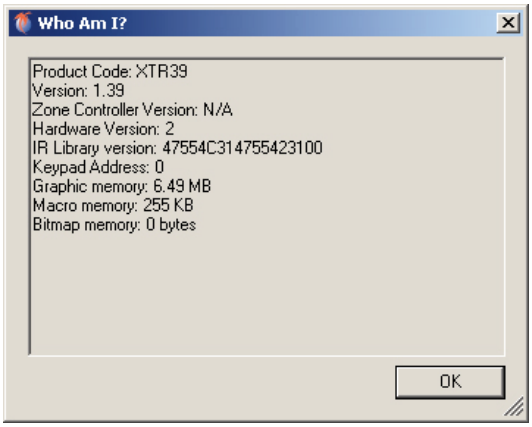

Figure 59: Who Am I *with device recognized*

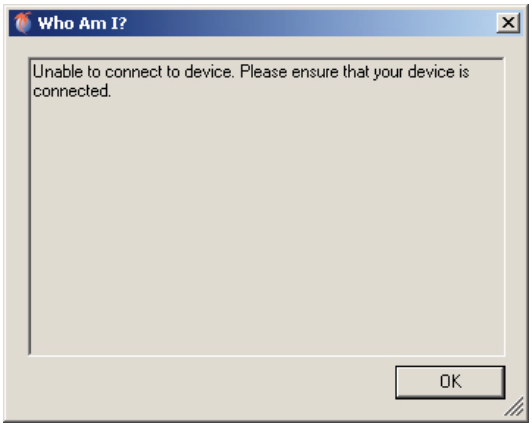

Figure 60: Who Am I *with device not recognized*

If Universal Dragon does not recognize the com port or the device, it will display the dialog box shown in *Figure 60*. If it does not recognize the com port, Universal Dragon may also display the dialog box shown in *Figure 61* when attempting to transfer a project.

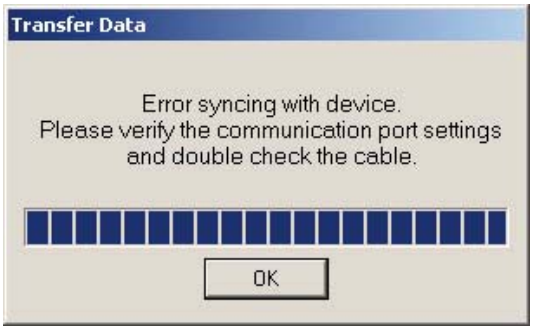

Figure 61: Error syncing with device *screen*

INSTALLING DEVICE DRIVERS

If Universal Dragon displays the dialog box shown in *Figure 59* during a *Who Am I* query, or the dialog box shown in *Figure 60* when attempting to transfer a project, you wil need to install the device's driver into your computer's operating system.

1. When you first connect the device to your computer Windows will display the *Found New Hardware Wizard* (see *Figure 62*). Select *No, not this time* and click *Next*.
2. On the next screen that is displayed (*Figure 63*), select *Install from a list or specific location (Advanced)*. The *Browse for Folder* dialog box will be displayed.

Figure 62: Found New Hardware Wizard *screen #1*

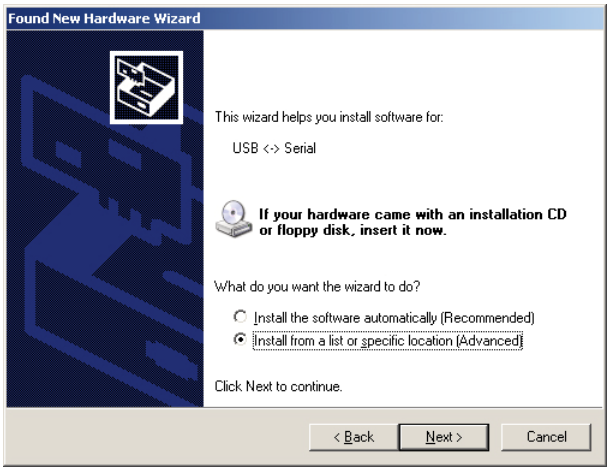

Figure 63: Found New Hardware Wizard *screen #2*

3. Navigate to the following folder: C: (or Local Disk) > *Program Files* folder > Xantech folder > *Universal DragonvXX.X* folder > *Drivers* folder (see *Figure 64*).
4. With the *Drivers* folder selected, select *OK*. Windows will find and install the correct driver for the device.

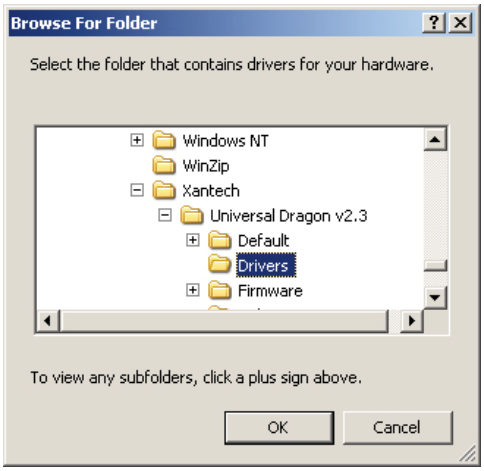

Figure 64: Universal Dragon Drivers *folder*

SELECTING THE PROPER COM PORT

After you have installed the device's driver into your computer's system, if Universal Dragon still displays either of the dialog boxes shown in *Figure 59* or *Figure 60* you may need to tell Universal Dragon to which com port the device is connected.

1. On your computer's desktop, right-click on the *My Computer* icon and select *Manage*. The *Computer Management* dialog box will be displayed (*Figure 65*).
2. Double-click *Device Manager*. The *Device Manager* screen will be displayed (*Figure 66*). The port to which the device is connected will be listed under *Ports*. Note the port number.
3. In the File menu, select Global Preferences. The Preferences box (F*igure 67)* will be displayed.
4. In the *Serial* section, use the *Available Ports* drop-down menu to select the port number shown in the *Device Manager* screen (*Step 2*).

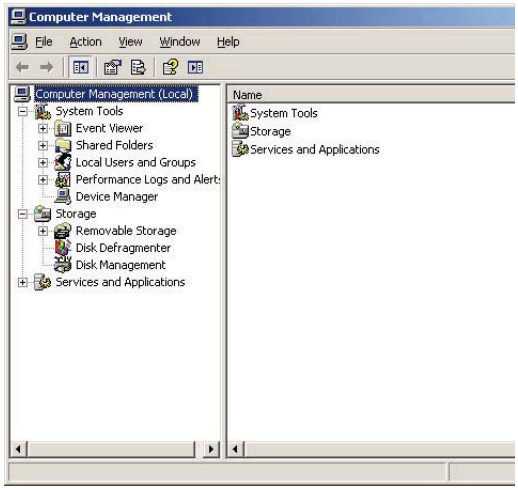

Figure 65: Computer Management *screen*

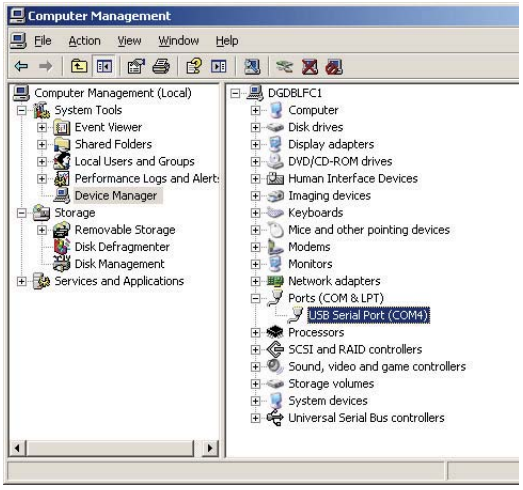

Figure 66: Device Manager *screen*

OBTAINING ADDITIONAL INFORMATION

UNIVERSAL DRAGON SOFTWARE UPDATES: http://xantech.com/Downloads/Software/. This page also contains links to various support documents that can help when using Universal Dragon to program Xantech devices.

NOTE: THE LATEST VERSION OF UNIVERSAL DRAGON AT THE TIME OF WRITING OF THIS MANUAL IS V2.3.25.

FIRMWARE UPDATES:http://xantech.com/Downloads/Firmware/.

APPLICATION ADVISORIES: http://xantech.com/Downloads/AppAdvisories/.

INSTRUCTION MANUALS AND QUICK-START GUIDES: www.xantech.com. Use the *Product Manuals* drop-down list near the bottom of the page.

TRAINING MODULES: http://www.xantech.com/News/Training/

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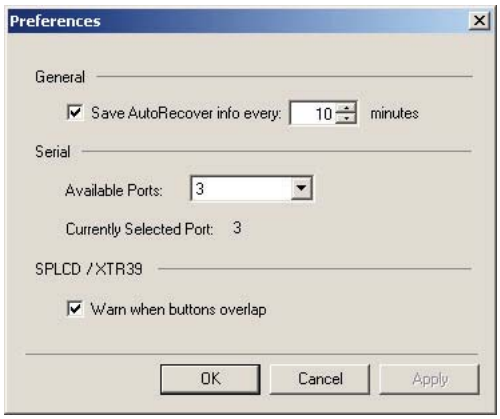

Figure 67: Global Preferences *screen*

FORUM: http://www.xantechforum.com/forum/YaBB.pl. After registering and receiving your confirmation e-mail, go to *Dragon's Lair*.

SUPPORT DOCUMENTATION FOR OTHER XANTECH PRODUCTS: http://www.xantech.com/Support/

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